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Antitrust and Predation – Reflections on the State of Art

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ANNALITICAL INDEX:

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You're gouging on your prices if you charge more than the rest.
But its unfair competition if you think you can charge less.
A second point that we would make to help avoid confusion:
Don't try to charge the same amount--that would be collusion.

--by Fred L. Smith Junior and James Gattuso (from the introduction to Tom Smith and his Incredible Bread Machine, by RW Grant (CEI, 1998).

Introduction

This paper deals with the general theme of antitrust policy, and focuses on the question of how to enforce antitrust law against the anticompetitive practice called predation, or predatory pricing. We think this is an important issue since it is at the convergence of a number of theoretical questions about antitrust that will be increasingly pressed in the years to come, due to the specific characteristics of many of the technological innovations made possible by the synergy between cheap and powerful computing power and omnipresent ways to convey information.

1. Competition Policy, Antitrust and the Role of State

Before we start to discuss the role of the State in relationship to antitrust policy, maybe it would be appropriate to define some core concepts, one of them being that of antitrust itself and the other, the closely related notion of competition policy.

At first, the very fact that the terms antitrust and competition policy are frequently used synonymously should be considered as a mistake. Antitrust refers to the rules (and their enforcement) which prohibit private anti-competitive conduct, such as restrictive agreements, abuses of dominant position and foreclosing mergers _ so it promotes competitions among domestic firms in any given country[i] (figure below[ii]). Competition policy refers to all those actions, primarily political and regulatory, which aim at making economies more competitive,

liberalizing monopolistic sectors, abolishing or at least reducing state aids, and eliminating the remaining barriers against the free flow of goods and services _ then, promoting competition from foreign firms.

In the broadest sense, antitrust policy aims to make the market work better. If properly designed, it is a market perfecting part of the social infrastructure. It regulates the intensity of competition and the scope of cooperation and defines the legal boundaries for both. Examples of impermissible competition and impermissible cooperation, respectively, are predation (equivalent to the premeditated murder of a market competitor) and coercive collusion (one firm being forced to join a group of others).

Like all social regulations, antitrust policy reflects history and culture. Therefore, they are constantly changing, and they always differ among countries. Not all countries have a formal, codified antitrust policy, but all have informal antitrust conventions.

At least in principle, a rational government should pursue some degree of convergence between antitrust policy and the more general competition policy. Using for example trade liberalization as a proxy, we could build a general framework to evaluate the use of antitrust and competition policies in a rational manner:

	High Level of Tariffs	**Low Level of Tariffs**
Rigorous Antitrust Policy	***Quadrant I*** Maybe Coherent With Intra Muros Enhanced Competition	***Quadrant II*** Coherent Across the Board; Fully Enhancing Competition
Loose Antitrust Policy	***Quadrant III*** Coherent Across the Board; National Champions Strategy (or mere capture by rent-seekers)	***Quadrant IV*** Maybe Coherent With "neoschumpeterian" policy

Table 1 – Taxonomy of Combined Policies

Of course this kind of taxonomy is not an accurate assessment of reality; for example, countries situated in Quadrant I could be anxious to pursue a more hearty competitive, Quadrant I – type of combined policy, but could be hampered by problems with balance of payment deficits. Notwithstanding, one could agree that the table above conveys the kind of framework one should have in mind when dealing with competition policy matters.

Given this framework, the role of the State in competition policy should be straightforward: once chosen the appropriate approach – what is in fact a byproduct of the conjuncture as also as of using sound economic wisdom - it should provide the necessary stewardship to "maintain the route".

Actually, when we meet the task of confronting the theory with the works of the real world, we will discover that this picture is increasingly innacurate. To show why, we are going to give a close exam to a very good documented experience, that of the United States of America.

1.1 Evolution of Antitrust Policy in the United States[iii]

The consensual "fundamental stone" of antitrust policy in the USA was the passage of the Sherman Act in the United States in 1890. Among American statutes that regulate commerce, the Sherman Act is unequaled in its generality. The Act outlawed "every contract, combination or conspiracy in restraint of trade" and "monopolization" and treated violations as crimes. By these open-ended commands, Congress gave federal judges extraordinary power to draw lines between acceptable cooperation and illegal collusion, between vigorous competition and unlawful monopolization, albeit this powerful role of the courts, and mainly of the Supreme Court, only came out step by step[iv].

We will proceed now to list the main periods in antitrust practice and thought in the United States[v].

1.1.1 The Early Days of the Sherman Act: 1890-1914

Kovacic (1990) states that "most economists in the late 19th century scorned the Sherman Act". There was a widespread opinion that the statute couldn't cope with the then seemingly irresistible trend toward firms of larger scale and scope; most economists thought the full enforcement of the statute would be very bad to industries with very large fixed costs, like the dynamic part of the economy in that times: railroads and utilities. Only few people

considered the Act as a useful tool for controlling abusive business conduct. These were the main decisions in these years:

Decision	Commentary
United States v. E.C. Knight Co. (1895)	Supreme Court tolerated a series of mergers that gave the Sugar Trust control over 98 percent of the country' s sugar refining capacity. The *E.C. Knight* outcome and executive branch indifference to the Sherman Act helped trigger a merger wave only stopped again in 1904.
Dr. Miles Medical Co. v. John D. Park & Sons. Co. (1911)	Supreme Court held that a minimum resale price maintenance (RPM) agreement, by which a manufacturer compels retailers to sell its products above a specified price, is illegal *per se*. The rule of *Dr. Miles* continues to govern such arrangements.
Standard Oil Co. v. United States (1911)	Supreme Court directly tackled the question of dominant firm conduct and left four enduring marks. First, the Court treated Standard' s 90 percent share of refinery output as proof of monopoly. Future cases commonly would use high market shares as proxies for monopoly power. Second, the Court established the "rule of reason" as the basic method of antitrust analysis. By this standard, judges would assess conduct on a case-by-case basis, although especially harmful behavior still might be condemned by bright line, per se rules. Third, the Court began classifying some behavior as unreasonably exclusionary. It ruled that Standard' s selective, below-cost price cuts and buy-outs of rivals illegally created and maintained the firm' s dominance. Finally, despite Standard's dire (and unfulfilled) predictions of industrial apocalypse, the Court broke the firm into 34 parts.

Yet, although retrospectively we see the Standard Oil case as one of the most heavy-handed episodes in US antitrust policy, the US Congress was not of this opinion at the time and, fearing the "softening" of the Sherman Act by jurisprudence emanating from the Supreme Court, issued the Federal Trade Comission Act and the Clayton Act in 1914. The Clayton Act aimed at reducing judicial discretion by specifically prohibiting certain practices, while the FTC Act ended the executive branch' s public enforcement monopoly by forming an administrative body, still linked to the executive branch but more accountable to Congress, to execute the antitrust policy _ the Federal Trade Comission[vi].

In this we should take in account the still strong traditions of the economic past of the United States. As we can see in Heideking (2000), the so called Jacksonian Era, 1820-1840, was characterized by the triumph of private corporation's management of the economy over the concurrent "state-led activism" favoured by Henry Clay and the Whig Party. This assumed the form of the primacy of the small entrepreneur. Thus the distrust of Congress with the big business then arising in the economic landscape of the United States.

1.1.2 Ascent of the Rule of Reason: 1915-1936

Despite the developments of the previous decades, in this period the antitrust policy stays in relative repose. The courts relied increasingly in the so called rule of reason, rather than in the more ruthless per se rules; in the other hand the executive branch discouraged aggressive prosecution by the Justice Department and the FTC.

This was in part due to the emergence of a new "associationalist" model of government-business relationship derived from the War Industries Board in World War I, that managed the wartime industrial mobilization. As a consequence many government oficials, economists and business leaders believed that that was the best way to organize the economy in peacetime as well. To them, much of competiton was indeed a waste of resources.

To many observers, the economic collapse in 1929 confirmed the misfit of the competitive model of economic organization and verified the associationalist preference that the government take stronger steps to orchestrate commerce. Advocates of close coordination between government and industry exercised considerable influence in designing the National Industrial Recovery Act (NIRA) and other planning experiments of the early New Deal.

At the 30's, Congress imposed comprehensive controls on entry and pricing in sectors such as transportation and passed the Robinson-Patman Act (1936), which sought to prevent national retailing chains from expanding at the expense of small stores. As political and intellectual support for competition waned, antitrust policy receded as well.

As one should expect, Supreme Court decisions in this era reflected the intellectual climate:

Decision	Commentary
United States v. Colgate & Co. (1919)	Supreme Court permitted producers to announce a favored distribution policy and "unilaterally" refuse to deal with downstream firms that did not comply, thus narrowing the *Dr. Miles* per se ban upon minimum RPM.
Maple Flooring Manufacturers' Association v. United States (1925)	Supreme Court also took a benign view of arrangements for sharing price and output data among rivals[vii].
Appalachian Coals, Inc. v. United States (1933),	Supreme Court refused to condemn an output restriction scheme embodied in a joint marketing agreement proposed by coal producers in the eastern U.S. Like the Congress at the time, the Court appeared to have lost faith in free market competition and

	welcomed experiments with sector-wide private ordering. *Appalachian Coals* later came to be seen as a Depression-era aberration.
United States v. United States Steel Corp. (1920)	Supreme Court slighted evidence of outright collusion and exonerated the nation's leading steel producer on monopolization charges. The Court credited testimony by U.S. Steel's rivals, who praised the defendant' s willingness to let them prosper beneath its generous price umbrella. The company's declining market share -- from over 80 percent in 1910 to about 40 percent in 1920 -- also convinced that Court that it lacked market power

In this period, the FTC powers were also somewhat diminished. Their own principals were very shy in carry on their duty, preferring on the contrary to blame past administrations for too much activism. The Supreme Court also managed to restrict the agency's powers; especially damaging was *Federal Trade Commission v. Eastman Kodak Co.* (1927), where the Supreme Court said the FTC lacked power under Section 5 to order divestiture to undo anti-competitive asset acquisitions. Not until the late 1960s did the FTC gain judicial rulings that repaired the damage from the 1920s.

1.1.3 Emphasis on Market Structure and Per Se Rules: 1936-1972

By mid-30's, however, the winds of fortune changed again and the planning doctrines had lost most of it's previous appeal. From 1936 through 1940, Roosevelt's top appointees to the Justice Department, culminating with Thurman Arnold' s selection to head the Antitrust Division, mounted ambitious attacks on horizontal collusion and single-firm dominance. The main characteristic of this period was the search for ways to simplify the government's burden of proof; many commentators, observing that the rule of reason often entailed an indeterminate inquiry that exonerated defendants, urged courts to simplify the plaintiff' s burden of proof.

This period saw also the emergence of the so-called "Harvard tradition" and the "structure-conduct-performance" paradigm of Industrial Organization[viii]. According this paradigm, the market structure (number of firms in the market, their cost structure, the concentration etc) determines conduct (price, R&D, advertising etc) and this determines market performance (efficiency, profits, innovation rate and so forth). This paradigm was important in that it provided clear directions to guide the formulation of "per se" rules.

The main decisions in this period, which are not very welcomed today, were:

Decision	Commentary
United States v. Socony-Vacuum Oil Co. (1940)	Supreme Court condemned collective efforts by refiners to buy "distress" gasoline produced by independents. The Court emphasized that horizontal price fixing agreements would be condemned summarily and treated as crimes, regardless of their actual effects. The Court warned that business managers who tried privately to recreate the planning schemes that government officials previously had approved acted at their peril.
Brown Shoe Co. v. United States (1962),	Supreme Court invalidated a merger that would have yielded a horizontal market share of 5 percent and generated a vertical foreclosure of under 2 percent. *Brown Shoe* ruled that the parties' market share, though low overall, could be deemed excessive in certain "submarkets." The Court also held that non-efficiency goals, such as preserving small firms, were relevant to applying the statute.
Utah Pie Co. v. Continental Baking Co. (1967)	Supreme Court condemned a national bakery' s use of localized price cuts to challenge the leading local producer. Courts routinely slighted efficiency rationales for challenged behavior, revealing an implicit suspicion that superior performance never could explain dominance.

1.1.4 The Rise of the Chicago School: 1973-1991

By the early 1970s, the extreme activism in antitrust law reflected in public enforcement policy and Supreme Court decisions had attracted harsh criticism from a diversity of commentators, specially among those who was militating at the movement known as the "law and economics movement", including legal scholars such as Robert Bork and Richard Posner[ix]. A glimpse of the prevailing intellectual climate can be seen in the final paragraph of Posner's influential book, "Antitrust Law: an Economic Perspective":

> "In closing, I would like to recapitulate very briefly the main theme of the book. As a result of neglect of economic principles, the judges, lawyers, and enforcement personnel who are responsible for giving meaning to the vague language of the antitrust statutes have fashioned a body of substantive doctrine and a system of sanctions and procedures that are poorly suited to carrying out the fundamental objectives of antitrust policy _ the promotion of competition and efficiency. The per se rule against price fixing, the merger rules, the rules governing competition in the distribution of goods, the tie-in rule, the use of structural remedies, the trial of antitrust cases according to methods of proof developed hundreds of years ago _ these and other features of the antitrust system examined in this book reflect above all an endeavor, sometimes ingenious and sometimes pathetic, to set antitrust free from any dependence on economic principles. The endeavor has failed; the system is in disarray. The time has come to rethink antitrust and with the aid of economics. This book is offered as a contribution to the process of rethinking."

There was also a feeling that antitrust enforcement was hampering the performance of American enterprises; pivotal to the spreading of this feeling was the fierce competition, overseas and at home, suffered by American firms by the rise of japanese industries in markets as automobiles and consumer electronics.

As we have seen (cf. note nr. ix), in the 1930s, Chicago-based theorists such as Henry Simons played a key role in attacking central planning and promoting deconcentration policies. The new Chicago School originated in the work of Aaron Director[x] in the late 1940s and early 1950s. Like Simons, the new Chicago School abhorred comprehensive regulation of entry and prices but, unlike their predecessors, the new Chicago scholars emphasized efficiency explanations for many phenomena, including industrial concentration, mergers, and contractual restraints, that antitrust law acutely disfavored in the 1950s and 1960s.

Analysts as Kovacic (1999) argue that the great achievement of the many scholars and lawyers proponents of the Chicago School's ideas was to be able to "pack" the School's analytical precepts into operational principles that judges readily could apply. This led to the quick spreading and acceptance of these ideas into the judicial branch[xi].

During this era[xii], it is clear that the courts, under the Chicago School' s influence, were trimming back antitrust doctrine, as we can see in the most important decisions of the period:

Decision	**Commentary**
Continental T.V. Inc. v. GTE Sylvania Inc. (1977)	This decision held that all non-price vertical restrictions _ like the location clauses challenged in this case _ warrant rule of reason analysis. The Court prominently cited Chicago School commentary and emphasized that the analysis of economic effects provided the proper basis for evaluating conduct under the antitrust laws.
United States v. General Dynamics Corp. (1974)	Here the government suffered its first Supreme Court defeat under the Celler-Kefauver Act. *General Dynamics* showed that the rebuttal possibilities recognized in *Philadelphia National Bank* (1963) were not illusory. Several influential lower court cases used ease of entry to permit mergers that yielded high market shares. Other decisions recognized at least the conceptual validity of efficiency justifications.
United States v. Baker Hughes, Inc. (1990)	The Court ruled that the defendant's burden of proof in a merger case depends on whether the plaintiff relies solely on market share data or provides further evidence of likely anti-competitive effects. These decisions parallel similar developments in the federal merger guidelines, which disavowed the most extreme enforcement possibilities created by Supreme Court merger decisions in the 1960s.

1.1.5 Towards a Post-Chicago Synthesis: Since 1992

To Kovacic (1999), "since the mid-1990s, antitrust decisions and government enforcement policy have begun to reflect the flexibility of recent analytical perspectives".

In fact, the Clinton administration has been distinguished by trying to reverse the trend of the previous era, confering more assertiveness to the trustbusters officers. There is a wish to develop more manageable analytical techniques that avoid the complexity of the traditional rule of reason yet supply a richer factual analysis than per se tests. There is also the propension to apply game-theoretical approaches, as in the recent decision by the Justice Department in adopting a policy that gives criminal immunity to the first cartel member to reveal the cartel' s existence[xiii].

But in fact there isn't a consensus of what a Post-Chicago synthesis should be. Of course nobody except the more radical minds would welcome the return of the "per se" era; but in the other hand, there is a growing insatisfaction with the more permissive aspects of the Chicago School era. Some analysts, Kovacic included, seems to believe that a Post-Chicago antitrust policy should be driven by some kind of Post-Chicago economics, and manifest their hope that theoretical developments as game theory could provide this new background.

Other analysts, as Kwoka (1994), stress that Post-Chicago economics is not yet a unified alternative paradigm, but a convergence of a set of techniques as advanced empirical analysis, superior econometric tools and game theory. These set of techniques are shedding light on the potential competitive harm from actions that the Chicago School exonerated. But some have expressed concern that its more fact-based approach is best suited to the "rule of reason", and that will increase the cost of litigation, making determinations of antitrust violations more difficult.

Nevertheless, as Kwoka aptly said in his book,

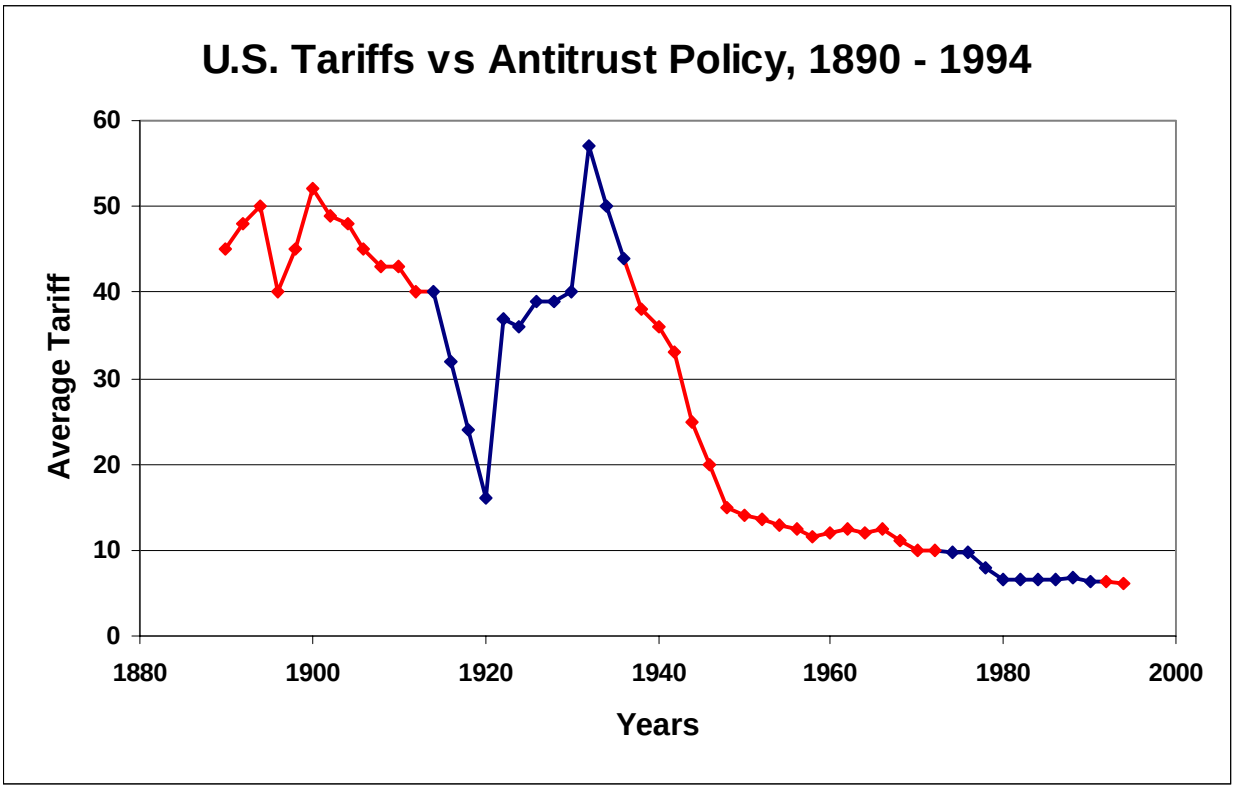
> "...post-Chicago antitrust economics is very much a part of the "antitrust revolution". Economics constitutes its foundation just as much as economics did for the new learning _ indeed, its advocates would argue, more so. These new views simply represent another step in that revolution. And there will be many more such steps, as economics strives to clarify the effects of structural changes and various business practices on market performance."

Maybe, as Kwoka suggests, the fundamental lesson that can be learned in the progress of antitrust reasoning after 110 years of the passing of Sherman Act is the growing prominence of economic theory as the source of legitimacy to the crafting of policy.

1.2 The Hopeful linkage between Antitrust Policy and Trade Liberalization

Just to recapitulate, at the beginning of chapter 1 we wondered if one can trust the kind model we formulated about the linkages between antitrust policy and trade liberalization.

Below we present a graph comparing a convenient proxy for trade liberalization – average tariffs to imported goods – and the the antitrust "eras" as defined in section 1.1:



Below, we show the average tariff and standard deviation for the tariffs of each period, plus the location of each period in the Quadrants of our model:

	av	sd	Quadrant	
Period 1	**45.2**	**4.0**	I	Maybe Coherent With Intra Muros Enhanced Competition
Period 2	**37.6**	**11.3**	III	Coherent Across the Board; National Champions Strategy (or mere capture by rent-seekers)
Period 3	**17.3**	**9.2**	II	Coherent Across the Board; Fully Enhancing Competition
Period 4	**7.3**	**1.4**	IV	Maybe Coherent With "neoschumpeterian" policy
Period 5	**6.2**	**0.1**	II	Coherent Across the Table; Fully Enhancing Competition

The conclusion is that there is no obvious pattern emerging from the model. In particular, antitrust policy has been more affected by the wavering tides of politics[xiv] than by a concerted effort to link it with trade liberalization; and even the rise of the more permissive approach of Chicago School, boosted among other factors by the fear of japanese competition wipening out American business, was not followed by a rise in tariffs[xv].

If any trend can be detected in the American context, is that of the growing importance of economic theory in the framing of antitrust policy and judging antitrust cases[xvi]. It must be seen how this trend is going to develops in the future, where there is a mysterious Sphinx awaiting for further explanation: does the "New Economy" requires a "New Economics" ? We are going to address this question in the following chapters.

2. Predation

Now we will discuss one specific topic in antitrust policy, that of the prevention of anticompetitive conducts by firms, and more specifically yet, the question of predation. We think this is an important issue because when in conjunction with the land-sliding change provided by the fast pace of technological innovation it focuses many of the questions that divides economic thought about antitrust. In fact, it provides a battlefield where the proponents of the post-Chicago school are maneuvering just now, brandishing a whole new set of economic concepts.

So, in this chapter we are going to describe the conventional approach to predation, the legal framework (including Supreme Court decisions) established until now, and the main reasoning roads used by the opponents of the conventional approach.

2.1 The Mechanics of Predation

Predation is a kind of anticompetitive conduct generally thought to be unlawful under the Section 2 of the Sherman Antitrust Act of 1890:

> ### Section 2. Monopolizing trade a felony; penalty
>
> Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding $10,000,000 if a corporation, or, if any other person, $350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.

As such, predation can be considered as one sort of strategy pursued by any firm interested in an attempt to monopolize the market for some product. In the classic predation case, a dominant firm would lower its price sufficiently to impose losses on its rivals. By driving its rivals out of the market, the predator will be free to impose higher prices later, with the associated additional consumer harm due to its unconstrained market power. Maybe the paradigmatic case of predation was that involving Standard Oil, which maneuvered to gain the monopoly of petroleum markets in the USA in the end of the XIX century[xvii].

Interestingly enough, the detection of predation and the enforcement of anti-predatory legislation is one of the trickiest issues in the whole field of antitrust policy. The reason for this is that it is very hard to tell an unlawful predatory attack from hard competition based on the merits. The later clearly boosts consumer welfare; the first not. So agencies have come to pains to set up sound operational rules to discriminate between them, since they are constantly remembered that antitrust enforcement must protect competition not competitors.

Predation of course also poses a significant threat to the Judiciary branch. Since the Standard Oil case, the Supreme Court has ruled about predatory behavior quite a number of times, but in the last decade of the XX century it seemingly adopted a more cautious approach to this matter.

In the following, we will discuss how the thinking about predation is evolving in the academical setting and how agencies and courts are dealing with the issue.

2.1.1 Predation: The Chicago School Model and the ruling of the Courts

The standard understanding of predation by the Chicago School theorists is that it is irrational and so must be rarely observed in the real world[xviii]. This skepticism is due to the presumed irrationality of a firm pricing at predatory levels to maximize profits. Assuming a perfectly competitive environment, a firm engaging in such conduct would incur such severe short-term losses in its attempt at disadvantaging rivals that it would not rationally consider such a strategy. Even were the firm to engage in such conduct and successfully eliminate rivals, to be profitable, the predating firm would need to recover losses through raising prices later to supracompetitive (i.e., above normal competitive) levels.

In an environment of complete information, prices at such levels would attract new competitors (hoping to obtain surplus profits), thereby reducing the firm's chances of recouping its losses. Realizing this, the firm would calculate the probability of recovering lost profits to be low and avoid such conduct.

This reasoning is now espoused by quite a number of economists and antitrust specialists, and was influential among the federal and state agencies and in the Judiciary branch also. For example, for many years federal agencies have given up filing predatory cases with the Justice (albeit in the Clinton Administration the trustbusting willingness of the agencies have been somewhat resurrected).

In the last years, the Supreme Court dealt with three cases of predatory pricing: Matsushita Electric Industrial Co. v. Zenith Radio Corp., Cargill, Inc. v. Monfort of Colorado, Inc., and Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. In Brooke Group, the Court resolved one important issue. They held that prices "below an appropriate measure of [the defendant's] costs" were a prerequisite to predatory pricing liability[xix]. In addition, the Supreme Court has ruled that a firm cannot be held liable if it prices its products above its costs.

According to the Court, the below cost rule is justified for three reasons:

1) First, prices above a relevant measure of cost might reflect a firm's lower cost structure, and so represent competition based upon the merits. In that situation,

"[t]o hold that the antitrust laws protect competitors from the loss of profits due to such price competition would, in effect, render illegal any decision by a firm to cut prices in order to increase market share."

2) Second, the Court concluded that it would be imprudent to condemn above-cost price cuts where a firm cut its prices to a level above its costs for anticompetitive purposes. The price cuts, the Court reasoned, would start a chain of events likely to result in the breakdown of oligopoly pricing and the onset of competition. And, even if the price cuts ultimately reestablished competitive pricing, condemning the price cuts deprived consumers of the benefits of lower prices during the interim period.

3) Third, the Court noted that condemning above-cost price cuts would be "beyond the practical ability of a judicial tribunal to control without courting intolerable risks of chilling legitimate price-cutting."

Also, following the Chicago School reasoning, the Supreme Court has introduced a second requirement for predatory pricing liability: recoupment. Recoupment is defined as the ability of a firm to have either a "reasonable prospect" or a "dangerous probability" of recovering its investment in below-cost prices through subsequent monopoly profits.

As we have seen, the rationale behind the recoupment requirement is that a predator could recoup losses from charging below-cost pricing if it could eliminate its rivals and thereafter charge supra-competitive prices. If a predator fails to eliminate its rivals, then it will not recoup its losses. In that case, there would be no injury to competition, and consumers would benefit from below-cost prices.

The Supreme Court set forth the appropriate test in Brooke Group, where it set up a number of situations where recoupment is not likely:

- when a market is highly diffuse and competitive;
- when new entry into the market is easy;
- and when the alleged predator lacks excess capacity to absorb the market shares of its rivals and cannot quickly create or purchase new capacity.

In such situations, the Court recommends summary disposition of the case. In the remaining situations, a plaintiff could satisfy the recoupment requirement in one of two ways. The plaintiff could use output and price information to prove that supra-competitive prices actually occurred. Alternatively, the plaintiff could produce evidence about the market and the defendant's conduct to show that the alleged scheme was "likely to have brought about tacit coordination and oligopoly pricing."

As set out by the Supreme Court, recoupment is a "demanding" and "difficult to establish" prerequisite that provides a substantial barrier to predatory pricing claims. The Brooke Group case exemplified this difficulty. The plaintiff, Liggett[xx], lost its case against Brown & Williamson despite unusually strong evidence in its favor. This evidence included information that Brown & Williamson cut its prices below its costs, had predatory intent, and that prices increased after the alleged period of predation notwithstanding falling demand and relatively constant costs.

The Court's imposition of a rigorous recoupment requirement has made it substantially more difficult to succeed in a predatory pricing claim. Based upon the Court's belief that predatory pricing schemes rarely occur, imposing obstacles makes sense. Given the difficulty of distinguishing between legitimate and anticompetitive price cuts, a minimal standard would have been very costly because it would increase the number of mistaken inferences, and would thus have a detrimental effect on desirable price-cutting behavior. Thus, the Court has chosen to set a high predatory pricing threshold, in order to minimize the occurrence of false positives and the potential impairment of competition. Although a high threshold would increase the occurrence of false negatives, it would not detect situations in which firms attempted to engage in predatory pricing schemes. The Court seems willing to tolerate such an outcome for two reasons: first, predatory pricing schemes would not be likely to succeed; and second, consumers would benefit from the lower prices that would result from failed schemes.

2.1.2 Criticisms of the Chicago School rationale

The onset of the post-Chicago “school” had also consequences to antitrust thinking. There is already some discomfort with the perceived “laissez-faire” approach of the Chicago School economists, and a feeling that in some cases the rationale behind Chicago School’s recommendations was too much pushed by ideological bias.

And in fact modern research has demonstrated the existence of circumstances where predation may indeed happens. The post-Chicago School (which as we have seen still isn't a fully coherent body of propositions, albeit many identifies it with the so-called "Harvard School" theories[xxi]) address a number of questions that threatens some concepts taken for granted by Chicago School's scholars. We will begin with the most departing and fundamental ones and then proceed to the most acknowledged by the literature.

2.1.3 Questionings about fundamentals: challenges to the rational decision-maker

Current antitrust assessments of predatory pricing rely primarily upon the behavioral assumptions of neoclassical price theory. This body of thought envisions a model of business behavior in which parties are assumed to be motivated exclusively by profit maximization, possess perfect information, and act calculatively rational in their decisions.

Yet modern research seems to show that this may not be the whole truth about human reasoning. Today there is a growing school of economists who are drawing on a vast range of behavioral traits identified by experimental psychologists which amount to a frontal assault on the whole idea that people, individually or as a group, mostly act rationally. In the following table we show some of the main findings at the leading edge of behavior research that are changing our understanding of human thinking:

Regret	People appear to be disproportionately influenced by the fear of feeling **regret**, and will often pass up even benefits within reach to avoid a small risk of feeling they have failed.
Cognitive Dissonance	Holding a belief plainly at odds with the evidence, usually because the belief has been held and cherished for a long time. Psychiatrists sometimes call this "denial".
Anchoring	People are often overly influenced by outside suggestion. People can be influenced even when they know that the suggestion is not being made by someone who is better informed.
Status quo bias	People are willing to take bigger gambles to maintain the status quo than they would be to acquire it in the first place.
Compartmentalization	Psychologists have found that people often make choices about things in one particular mental compartment without taking account of the implications for things in other compartments.
Over-confidence	Asked to answer a factual question, then asked to give the probability that their answer was correct, people typically overestimate this probability.

Representativeness heuristic	A tendency to treat events as representative of some well-known class or pattern;. this gives people a sense of familiarity with an event and thus confidence that they have accurately diagnosed it. This can lead people to "see" patterns in data even where there are none.
Availability heuristic	People focus excessive attention on a particular fact or event, rather than the big picture, simply because it is more visible or fresher in their mind.
Magical thinking	Attributing to one's own actions something that had nothing to do with them, and thus assuming that one has a greater influence over events than is actually the case.
Quasi-magical thinking	Behaving as if he believes his thoughts can influence events, even though he knows that they can't.
Hindsight bias	Once something happens, people overestimate the extent to which they could have predicted it.
Memory bias	When something happens people often persuade themselves that they actually predicted it, even when they didn't.
Emotional behavior	In a class of games ("ultimatum games") one player, the proposer, is given a sum of money and offers some portion of it to the other player, the responder. The responder can either accept the offer, in which case he gets the sum offered and the proposer gets the rest, or reject the offer in which case both players get nothing. In experiments, very low offers are often rejected, even though it is rational for the responder to accept any offer. Responders seem to reject offers out of sheer indignation at being made to accept such a small proportion of the whole sum, and they seem to get more satisfaction from taking revenge on the proposer than in maximizing their own financial gain.

But so far the most influential psychological idea that has invaded economics is "**prospect theory**". This differs in crucial respects from expected-utility theory—although, equally crucially, it shares its advantage of being able to be modeled mathematically. It is based on the results of hundreds of experiments in which people have been asked to choose between pairs of gambles.

The theory claims that people are "loss averse": they have an asymmetric attitude to gains and losses, getting less utility from gaining, say, $100 than they would lose if they lost $100. This is not the same as "risk aversion", any particular level of which can be rational if consistently applied. But those suffering from loss aversion do not measure risk consistently. They take fewer risks that might result in suffering losses than if they were acting as rational utility maximizers. Prospect theory also claims that people regularly miscalculate

probabilities: they assume that outcomes which are very probable are less likely than they really are, that outcomes which are quite unlikely are more likely than they are, and that extremely improbable, but still possible, outcomes have no chance at all of happening. They also tend to view decisions in isolation, rather than as part of a bigger picture.

To close this section, we must remark that even if we don't have to take this extreme approach to human rationality _ and in fact rationality is the best first approximation, since it is very tractable and well–suited to mathematical modeling _ there are some ways in that a perfectly rational decision-maker could engage in predation. This is a possibility set by agent -principal, or agency theory, approaches.

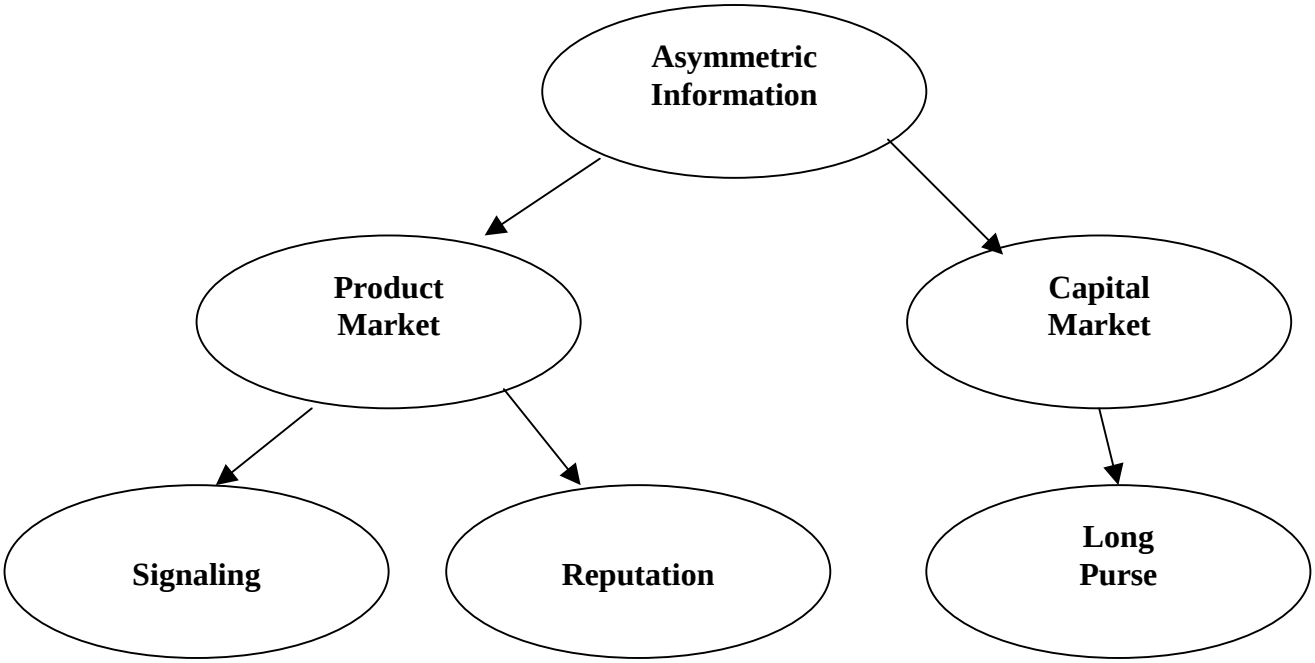
Agency theory deals with the problem of separation between property and control of a given asset; for example, the shareholders (in agency theory's terminology, the principal) and the manager (the agent) of a corporation. The problem here is one of asymmetrical information between principal and agent, because only the later has full knowledge of its acts; so the principal have to choose between the cost of do the task himself (an opportunity cost) and the cost of monitoring the performance of the agent (and the associated risk of slack or mischief by the agent in the case of the monitoring being too loose).

Given this background, one can expect that sometimes it's perfectly rational to a manager to engage in some sort of predatory behavior, even if it's not so rational to the shareholders, since the manager can be pursuing his own hidden agenda _ for example, the prestige that flows from commanding a large corporation with a large market share. Then, volume of production could be much more prized by the manager than profit maximization[xxii]. Volume-maximization can also be important when the manager wants to emphasize customer retention, by considering customers as long-term assets.

All of this is of great importance to predation theories as long as many of these theories relies in the behavior of firms in contexts of asymmetrical information and the need to make decisions about entry in a given market with no complete information about intents and operational conditions of rivals.

2.1.3 Questionings about consequences: game-theoretical approaches

Recent economic analysis has demonstrated the existence of circumstances where predation may indeed be rational. Models of rational predation now include three main scenarios (signaling, reputation and “long purse”), all deriving from asymmetric information imperfections, as schematized below:



Source: Prof. Chris Snyder from GWU, classroom materials

The first scenario, **signaling**, happens when a dominant firm use pricing in an effort to convince actual and potential rivals that it has lower costs than that it actually has. It rely on a predator being better informed than its "prey" (i.e., rival) about a market or demand characteristic related to price and relevant to the prey's market entry and output decisions. A variety of market and firm characteristics provide this potential, such as different knowledge regarding demand and market characteristics, technology, and production.

At a basic level, a firm's costs yield an excellent illustration. This information is often private and is, thus, held asymmetrically among firms. Moreover, cost information is of considerable value to competing firms for predicting a rival's strategy, as well as its potential response to the firm's own strategies. In this way, competing firm's possess significant

incentives for understanding each other's costs. Given these incentives, if a rival firm were to successfully alter the competitor's knowledge of these costs, it stands the potential of influencing that competitor's behavior.

Let's suppose a market already served by a firm _ the incumbent _ and that the incumbent is facing entry by another firm _ the entrant. Let's suppose also that the entrant hopes to make profits of P_a if the incumbent is an "easy" competitor and incur in losses of P_b if the incumbent is a "tough competitor", thus $P_a>0>P_b$. It could be the case if the incumbent has substantially lower variable costs than does the entrant. Suppose that the entrant thinks that the probability of the incumbent is a tough competitor is R (so the probability of the incumbent being "easy" is 1-R) and let S be the sunk costs of entry to the entrant; so, the expected profitability of entry is:

$$(1\text{-}R)\ P_a + R\ P_b - S$$

It follows that the any information about the value of R is vital to any potential entrant. For example, if the entrant is sure that the incumbent is easy, then it will enter the market as long as $P_a > S$, that is, as long as the stream of profits flowing from post-entry competition with a cooperative incumbent are greater than the sunk costs of entry.

The corolary is that in being so the incumbent has an incentive to do anything it can to convince the entrant that R is high. One of the best ways to conveys this belief is to emit a signal to potential entrants, influencing their perceptions, by setting a low price in its established markets. So the potential entrants might infer that the incumbent probably has low variable costs, that R is big and that entry is likely to be unprofitable, since it has no alternative source of information about the incumbent's cost structure. One could remark that in this framework the incumbent even don't have to set prices so low that it will be difficult to recover the losses of doing it; it only has to convince *the prey* (the entrant) that it will be difficult for the prey to recover its long run incurred costs.

Another scenario is that of a firm who serves many markets being agressive and predatory against a rival in one market to deter or slowing entry of competitors in the other markets it serves. By doing so it develops a "**reputation**" of being a tough competitor. Some firms go a step further into this strategy by announcing publicly it's mission to achieve dominant market shares, or by rewarding it's workers and managers for agressiveness in the market, for example, rewarding them not for market share rather than for profits.

There is a well known game-theoretical model, the “chain store paradox”, that proves that if we allow for infinite periods of competition, than no entrant exerts entry unless the incumbent fails to prey in any earlier period. Suppose a chain store faces a non-chain rival in each of a large number of distant towns. The chain cuts its prices drastically in a few towns. When the chain's rivals in those towns either exit or begin to compete less aggressively with the chain, the price war ends and high prices are restored. In addition, the chain store's rivals in all the other towns, in which the chain did not cut prices, also respond by avoiding aggressive competition with the chain. As a result, prices also increase in the towns in which predation did not occur.

The information asymmetry here is that given a finite number of markets, the potential entrant in one of the markets doesn’t know it the incumbent will pursue predation or not in this market. Preying in this context may be worthwhile in a dynamic sense, even when losses are incurred over the short-term. These profits derive from the economic effects obtainable across time. Beyond these outcomes, a firm may employ these reputational practices to keep rivals from breaking away or follow a particular price system or other tacitly agreed-to policy. Such "disciplining" may be enough to keep rivals "in line" and maintain price levels at supracompetitive levels.

A key aspect of these models is the necessity of reputation being establishable. This prospect is most likely when firms are operating within multimarket situations in which effects are easily observable to other firms. The greater the number of markets involved also tends to be a factor in this form of predation. Reputational effects might achieve economies of scale in this context.

The last kind of information asymmetry that can prompt predation is that due to lack of information at the capital markets. The literature refers to it as the “**long purse**” or “**deep pocket**” history. While in the previous theories of predatory pricing the predation only affects the perception of the rivals’ prospects by themselves, a predator with a “deep pocket” can indeed affect the actual prospects. This happens because if it is known that the predator has enough financial resources the rivals will find difficult to borrow from the savvy lenders, or at least will have to do it at a premium. Yet the rivals have an incentive to try entry as long as, in a world with incomplete information, the predator doesn’t know the financial constraints of the rivals, who can bluff.

2.2 Tests of Predatory Behavior

Historically, there are three possible lines of action open to the Courts:

"Laissez-faire" : This is more or less the core proposal of the Chicago School. If anticompetitive behavior is unlikely to be observed, then the Courts should let the firms behave any way they want in the market, because all competition will be "on the merits".

"Per se" rules : The Courts acknowledge that predation is rare, but not impossible. So they agree in enforcing the law against predation, by deploying a simple test to detect predation, The most simple rules are those that establish what would be the "appropriate measure of cost" behind which it could be considered that there was predation. A number of rules has been proposed:

- Areeda-Turner (1975) Called the A-T rule, it establishes that prices below the marginal cost of the firm must be a condition for predation. In practice, it uses the average variable cost as a proxy.

- Joskow-Klevorick (1979) It recommends that we look first at the industry structure; important factors are (a) the size of the dominant firm; (b) the size of the others firms, (c) stability of market shares; (d) dominant firm's profit history, (e) residual elasticities of demand, (f) entry conditions. If these conditions make predation likely, impose price floor of average total cost.

- Posner (1976) Recommends use of long run marginal cost and the intent of the predator.

- Williamson (1977) If expand output in response to entry, intent is predatory. Also predatory if price falls below average variable cost.

- Baumol (1979) Incumbent cannot lower price in response to entry if it raises price after exit. In addiction, price cannot fall below average incremental cost.

- Ordover-Willig (1982) Predation is an action that causes an entrant's exit and satisfies two conditions: (i) another action would have been more profitable if the entrant stays and (ii) the current action is more profitable given the entrant leaves.

- Salop et al. (1986) Called the S-S-K rule. Predatory action raises rival's costs and allows predator to increase price.

- Phlips (1995)

    1. The agressor is a multimarket firm (possibly a multiproduct firm)

    2. The predator attacks after entry has occurred in one of its markets.

    3. The attack takes the form of a price cut in one of the predator's market's, which brings this price below a current non-cooperative Nash equilibrium price at which the entry value is positive for the entrant (possibly below a discriminatory current Nash equilibrium price with the same property).

    4. The price cut makes the entry value negative (in present value terms) in the market in which predation occurs.

    5. Yet the victim is not sure that the price cut is predatory. The price cut could be interpreted by the entrant as implying that its entry value is negative under normal competition. In other words, the victim entertains the possibility that there is no room for it in the market under competitive conditions.

Open-ended rules : Have a detailed investigation of each case on the merits. Use intent and purpose; avoid simple rules.

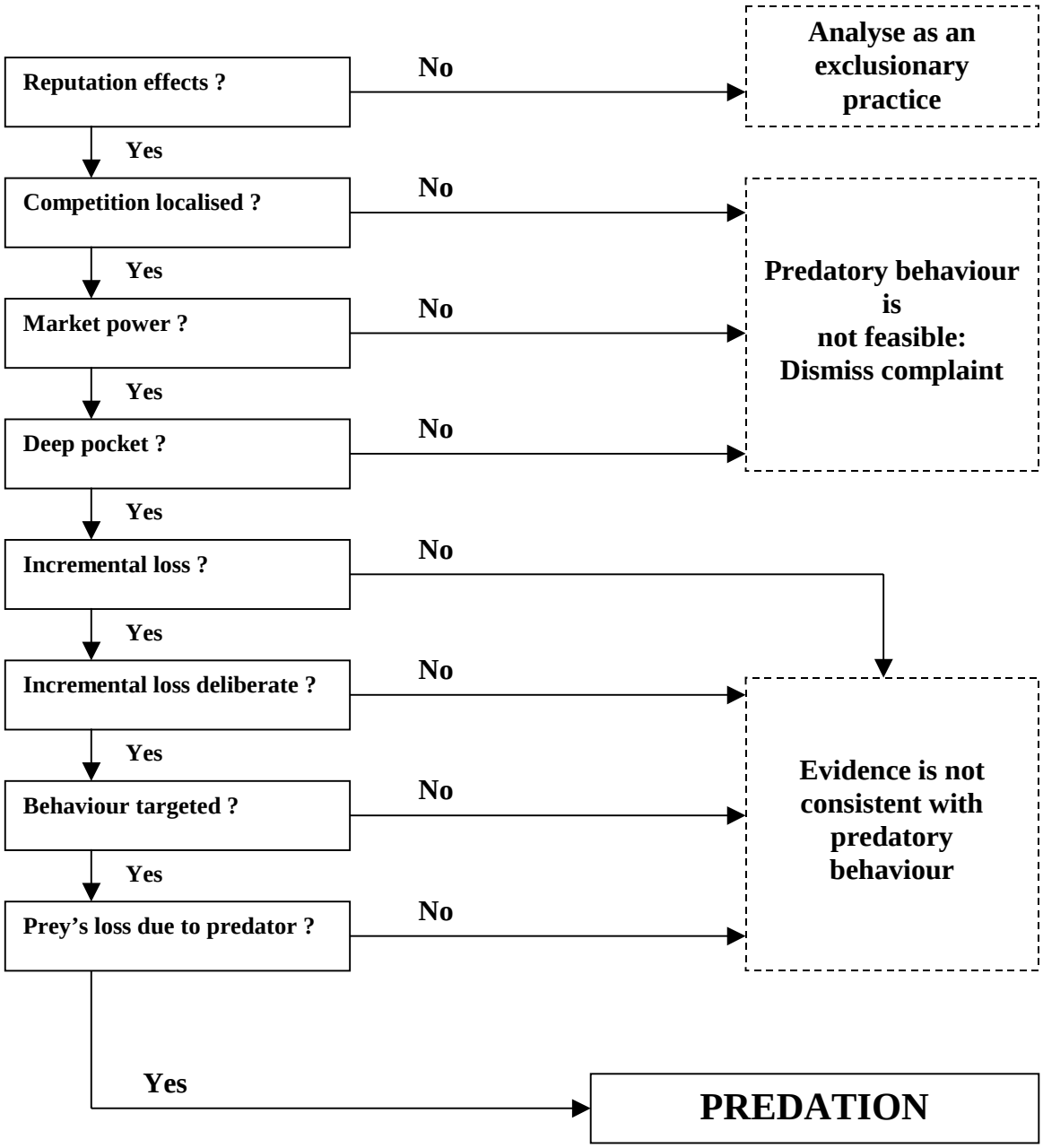
The Supreme Court has not set out a rule defining predation, and the Circuit Courts pursue different standards in different cases:

- Cost rule
- Intent
- Recoupment
- Long run strategic issues

In practice the ruling of the Courts have been that of set up high standards so any plaintiff will find extremely difficult to prove that it fell victim of a predator. They have done it because they believe that the cost of incur in "error Type I" _ confuse competitive behavior with predation, or false positive _ is still more bearable than the costs of "error Type II" _ miss certain instances of predation.

By their part, the agencies are also struggling to develop a framework suitable to detect predation. Although there are no signs that the American agencies are going to give such step, the OFT (Office of Fair Trade) of Britain has set up a framework to deal with investigations on predation (Myers 1994).

OFT Framework to detect Predation



3 New Directions in Antitrust Policy ?

In this final chapter we will briefly address the problem of if, and how, technological development affects antitrust policy, with particular concerns about the theory of lock-in by standard-setting and network externalities. Consider the following paragraph:

> "As the century closed, the world became smaller. The public rapidly gained access to new and dramatically faster communication technologies. Entrepreneurs, able to draw on unprecedented scale economies, built vast empires. Great fortunes were made. The government demanded that these powerful new monopolists be held accountable under antitrust law. Every day brought forth new technological advances to which the old business models seemed no longer to apply. Yet, somehow, the basic laws of economics asserted themselves. Those who mastered these laws survived in the new environment. Those who did not, failed. (Varian and Shapiro, 1999)."

Anyone more or less acknowledged with the concept of "The New Economy", defined by the belief that the widespread adoption of information technology is changing the economy in fundamental ways, and setting up new levels of sustained growth, would not hesitate in classify this as an apt description of present days. Yet this is a description of the state of things in America at the end of the XIX century.

In fact, the point of the authors is precisely that, with all its novelty, the "New Economy" doesn't need a "New Economics": the old tools of economics will do perfectly well in this new environment.

There are signals that this belief is not quite shared by the antitrust agencies, at least under the current Administration. In a meeting in February, 1999, Robert Pitofsky, Chairman of the Federal Trade Comission, addressed a speech about "antitrust analysis in High Tech industries". Albeit the general tone of his speech was conciliatory, in that his understanding was that new technology brought no fundamental new challenges to antitrust theory, he nevertheless cited a set of issues that should be taken in account by antitrust enforcers as technology develops:

> "What are the differences that call for adjusted antitrust treatment in the high-tech sector? Among others, they include the following:

Technical Issues. Many high-tech industries involve questions that are challenging for lawyers and judges who typically lack a technical background. For example, defining relevant markets, i.e., the process of identifying those firms that compete so closely with other firms that they can substantially influence the exercise of market power, is difficult enough under any circumstances. But it can become far more difficult in high-tech industries such as biotechnology, where products that might curtail the market power of a dominant incumbent firm are not in existence yet, and will not reach the market for several years; or in the cable industry where the essential question is when satellite transmission will become a real competitive force in the cable market. Similar problems arise with respect to telecommunications, a sector of the market where many believe competition for local operating companies will eventually be offered by electric utilities through their existing grid and electricity wires into the home. Each of these issues raises questions in the realm of science and technology that often will be difficult to address.

Speed of Market Transition. New generations of products, undermining existing market power, appear more frequently in high-tech than in mature industries. In the first one-half of the 20th Century, firms in steel, oil and aluminum remained dominant for generations, but that is often not the case in many high-tech industries. An often-cited example involves IBM, which probably was a dominant firm if not a monopolist in certain markets when the government initiated its case in 1969, but which had lost monopoly power in many of these markets 13 years later when the case was abandoned.(8)

Need for Collaborative Activities. In high-tech industries, joint research and development is often essential to share the risks of innovation and to combine complementary technologies. Collaboration and later coordination on standards may be essential to allow products to work at all. As a result, some have suggested that antitrust must abandon its entrenched skepticism of cooperative arrangements and allow more leeway in high-tech markets.

Barriers to Entry. Because competition in high-tech industries so often depends upon the implementation of ideas, and ideas have little respect for geographic borders or entrenched market power, many predict that existing market power will be transitory. Put another way, competitive problems that may occur in high-tech industries are said to be "self-correcting" through the rapid and seemingly perpetual introduction of new products.

Output and Price Effects. The traditional profile of a monopolist is of a firm that will curtail output in order to raise price. But that model often does not hold in high-tech markets. Partly because the front-end investment in new forms of technology is so great, and the marginal cost of additional copies or products modest, high-tech firms often price aggressively at the outset to achieve dominant market positions and ultimately to take advantage of economies of scale. There may also be unusually substantial learning efficiencies, sometimes described as an "experience curve" that result in production costs declining along with increased output. Also, the orthodox idea that monopoly is a narcotic and that the reward of monopoly is to enjoy

the "quiet life"(9) hardly describes many of the aggressive, dynamic, innovative high-tech firms in today's American economy.

Network Efficiencies. Finally, and most perplexing, there is the question of how to deal with network efficiencies. These efficiencies occur when the value of a product or service is positively correlated with the number of individuals who use the product or service. This can occur directly when a product's value is determined by the number of users in the network - for example, fax machines. It also can occur indirectly where a product achieves dominance and producers of essential complementary products (for example, application software firms that write programs for a dominant platform) overwhelmingly devote their resources in a way that is useable only with the dominant system. On the one hand, such networks are efficient and occasionally inevitable; on the other hand, they increase the likelihood that one firm, by achieving a critical mass, will dominate a market or retain market power for an extended period of time. "

Of course there is no chance of a return to the pre-Chicago School era, in the sense that the "antitrust revolution" identified by Kwoka has considerable staying power: economics is at the center of antitrust policy and even the juridical knowledge of the law practitioners has become a tool under the fundamental postulates of the Chicago School (and in that we share Posner's opinion that this is a very specific and desirable property of common law systems[xxiii]). But it should not be forgotten that even the dismal science has the potential to evolve, either by the sheer force of scientific inquiry and progress, either moved by more pragmatic concerns with the interests of pressure groups and political considerations.

In discussing the role of antitrust in high tech environments, one cannot be silent about the famous Microsoft case (a chronology of the troubles of Microsoft with the Government can be seen at the Annex II). The outcome of this case can prove to be vital to the behavior of the high tech sector of American economy in the years to come.

Summarizing, the Microsoft case started at May 18, 1998, when the Justice Department, 20 U.S. states and the District of Columbia filed antitrust cases alleging Microsoft that abuses its market power to thwart competition (see Annex II for the complete chronology of the troubles of Microsoft).

Market analysts see Microsoft as pursuing an attempt to market dominance through strategic standardization, i.e., by creating a Windows Internet platform with a range of related applications and services that suit it better than non-Windows Internet devices. The first phase of this strategy was to wipe out of the market two "middleware" applications,

Netscape's Navigator and the open-architecture Java programming language, what posed a thread to Microsoft's Windows operational system.

That's where enters the prospect for predation. Although the actual filing by the Justice Department doesn't contain any formal mention to predation (since they know that after the 1993 Brooke decision the courts are not very sympathetic to claims of predation), nobody doubts that predation is at stake. And it's at stake because in the act of spreading their browser, Internet Explorer, for free, Microsoft in fact Netscape's Navigator.

The weird thing about this case is that there is a line of reasoning that says predation is impossible in software industries. The economics of software is very simple: you spend a lot in development, but, once the product is ready, the marginal cost of each copy is virtually zero. So no price (precluded that the producer starts paying their clients to get the software) will be ever low enough to characterizing predation, under the current "appropriate measures" of cost allowed by the courts (most courts take for granted the Areeda-Turner rule by which predation can happens only if the price is below the average variable cost) !

This state of things is clearly very unsatisfactory, and there is a lot of excitement around this kind of issue. There are a lot of arguments floating around the academic community about how to characterize predation in such an environment, and some of these arguments are those remarked in the speech of Chairman Pitofsky. That's why the fate of the Microsoft case is so anxiously waited.

For instance, the conclusions of Justice issued by Judge Jackson can be a landmark in antitrust policy, since it was the first time that a Court accepted and endorsed a set of arguments (the plaintiff's arguments – that are the Antitrust Division of the Department of Justice and more 20 states) with a distinctively post-Chicago flavor against the anti-competitive practices of Microsoft, among them, the idea of network externalities. The judge also found Microsoft guilty under the Section 2 of the Sherman Act, by attempting a monopoly in another market then that where it already enjoys dominance, by predatory practices:

> "Since the Court has already found that Microsoft possesses monopoly power, see supra, § I.A.1, the predatory nature of the firm's conduct compels the Court to hold Microsoft liable under § 2 of the Sherman Act.
> In addition to condemning actual monopolization, § 2 of the Sherman Act declares that it is unlawful for a person or firm to "attempt to monopolize . . . any part of the trade or commerce among the several States, or with foreign nations . . . ." 15 U.S.C. § 2. Relying on this language, the plaintiffs assert that

> Microsoft's anti-competitive efforts to maintain its monopoly power in the market for Intel-compatible PC operating systems warrant additional liability as an illegal attempt to amass monopoly power in "the browser market." The Court agrees.
> (...)
> The Court is nonetheless compelled to express its further conclusion that the predatory course of conduct Microsoft has pursued since June of 1995 has revived the dangerous probability that Microsoft will attain monopoly power in a second market. Internet Explorer's share of browser usage has already risen above fifty percent, will exceed sixty percent by January 2001, and the trend continues unabated."

The case is not yet settled and it almost certainly will be considered by the Supreme Court. Anyway, it seems that, whatever the conclusion, some post-Chicago assertions has gained official status among the antitrust enforcement agencies and the courts.

4 Conclusion

Maybe the most practical way to conclude this paper is addressing some issues that probably are going to be of increasing importance in the years to come. In reflecting about the role of the State in antitrust matters, one wonders about the broad range of issues that could be addressed, from the fascinating theoretical developments in game theory to the earthly world of politics and the shaping of institutional arrangements responsible by the enforcement of antitrust policy. Given the fluid nature of predation, it is at the crossways of these many questions.

A fundamental question to be answered about the role of the State in antitrust is that of the apparent paradox of the government fighting some rights itself has granted to individuals. For example, there would be no point at Microsoft's strategies if it not had a monopoly granted to it over Windows by intellectual property laws. This is a contradiction that has no easy answer, given that intellectual property rights seems to be a vital incentive to innovation. It rests to be seen what are going to be the next developments, since other areas that are experiencing high rates of technological change, as biotechnology, has yet more potential to ensue disputation.

Another issue that is worth to mention is the need for more potent methodological tools in assessing predation cases. It seems to this author that we should not dismiss the caution of the courts, since it would be really a bad thing if innovation and competition on the

merits were hampered by excess of zeal by the courts (for a good discussion see for example the paper by Beckner and Salop discussing antitrust rules from the viewpoint of decision theory). Maybe more efforts should be concentrated in the development of good techniques to approach antitrust issues, mainly from the field of game theory (Ghemawat 1997 is a good source to start).

Finally we should stress, particularly in the case of Brazil, that to develop a good antitrust enforcement system all branches of government has to walk together. By this we mean that there is no point in developing a good and efficient antitrust agency at the Executive branch if the judicial branch doesn't cope with the challenge; we know that in Brazil the judicial culture is much more concerned with the high issues of moral theory and philosophy, and that the "law and economics" movement is virtually unheard among law schools of the country. By all means, this must be overcome.

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ANNEX I

Antitrust Statutes in the USA

Sherman Act (1890)

- Conspiracies in restraint of trade illegal
- Monopolization illegal

Clayton Act (1914)

- Price Discrimination
- Exclusive dealing
- Interlocking directorates
- Tying
- Holding companies

FTC Act (1914)

- Creates FTC
- Antitrust and unfair, deceptive practices (1938 amendment – Wheeler-Lea Act)

Robinson-Patman Act (1936)

- Price discrimination
- Predatory pricing

Celler-Kefauver Act (1950)

- Amendment to Clayton
- Can't purchase assets of another company if lessens competition

Hart-Scott-Rodino Act (1970)

- Notify FTC and DOJ of merger above large threshold

Source: Professor Chris Snyder from GWU, classroom materials

ANNEX II

Chronology of the case against Microsoft

1990

June - Federal Trade Commission (FTC) secretly investigates possible collusion between Microsoft and International Business Machines Corp.

1993

Feb. 5 - FTC takes no action against Microsoft after 2-2 vote of its commissioners.
July 15 - Microsoft and Justice sign consent decree that says Microsoft cannot require computer makers that license its Windows operating system to also license any other software product, but Microsoft may develop "integrated products."
Aug. 21 - U.S. Justice Department takes over Microsoft investigation. 1994
October - Microsoft announces proposed $1.5 billion acquisition of Intuit Inc., maker of Quicken personal finance software.

1995

Feb. 14 - U.S. District Judge Stanley Sporkin throws out consent decree as too easy on Microsoft.
April - Microsoft drops Intuit acquisition in face of Justice Department lawsuit.
June 16 - Appellate court overturns Sporkin ruling at joint request of Microsoft and Justice Department. Case then transferred to U.S. District Judge Thomas Penfield Jackson.
Aug. 21 - Judge Jackson approves consent decree.

1996

September - Government investigates possible violation of consent decree by Microsoft.

1997

Oct. 20 - Justice Department asks Judge Jackson to fine Microsoft $1 million a day for allegedly violating the consent decree by bundling Internet Explorer with Windows 95. Microsoft says browser is an integrated part of the operating system.
Dec. 11 - Judge Jackson issues preliminary injunction against Microsoft, requires unbundling of Web browser from operating system. Appoints "special master" to advise him.
Dec. 16 - Microsoft appeals Jackson's decision, offers computer makers old or "broken" version of Windows 95 without Internet Explorer. One day later, Justice Department asks Jackson to hold Microsoft in contempt for failing to obey order.

1998

Jan. 13-15 - Jackson rejects assertions of Microsoft lawyers and a company executive during contempt hearing.
Jan. 16, - Microsoft appeals appointment of special master to U.S. Court of Appeals.
Jan. 22 - Facing certain contempt citation, Microsoft signs agreement giving computer makers freedom to install Windows 95 without Internet Explorer icon.
Feb. 2 - Court of Appeals halts proceedings before special master.
May 12 - Appeals Court rules that injunction against Microsoft should not apply to Windows 98, allowing Microsoft to proceed with launch of new product.
May 18 - Justice Department, 20 U.S. states and the District of Columbia file major new antitrust cases alleging Microsoft abuses its market power to thwart competition.
Sept. 14 - Jackson rejects Microsoft motion for summary judgment to end the case.
Oct. 19 - Antitrust trial of Microsoft begins before Jackson.
Dec. 7 - South Carolina withdraws, leaving 19 states supporting the federal government against Microsoft.

1999

Feb. 16 - Microsoft trial first phase recesses after hearing 12 witnesses from each side and video depositions including one by Microsoft Chairman Bill Gates.
May 27 - Deposition by IBM's Garry Norris, who later becomes first computer maker executive testifying against Microsoft.
June 1 - Microsoft trial rebuttal phase begins.
June 24 - Microsoft trial testimony ends.
Sept. 21 - Closing arguments for "findings of fact" in trial take place.

2000

Apr. 3 – Conclusions of Law issued by Judge Jackson.

Source: Salon Electronic Magazine

NOTES

[i] In fact this is a slight simplification of the real world, since there is growing concern about the need of more cooperation in the issue of international antitrust. There are ongoing talks about antitrust international enforcement, but there is also a lack of consensus about what kind of multilateral institution should enforce it, and for a while it seems that most international antitrust enforcement will be provided by bilateral agreements.

[ii] Albeit in this illustrative figure we can see the map of Brazil, most of this paper will be dealing with the United States experience in antitrust matters, since this one has the oldest and more detailed documented experience and keeps being the most innovative in this area.

[iii] Cf. Annex I.

[iv] As Kovacic (1999) remarks, "By enlisting the courts to elaborate the Sherman Act' s broad commands, Congress gave economists a singular opportunity to shape competition policy. Because the statute' s vital terms directly implicated economic concepts, their interpretation inevitably would invite contributions from economists. What emerged is a convergence of economics and law without parallel in public oversight of business. As economic learning changed, the contours of antitrust doctrine and enforcement policy eventually would shift, as well." Despite this, we will see in the following paragraphs that it took in fact almost a hundred years to complete the marriage of law and economics.

[v] This part of the paper relies mainly in Kovacic (1999), and a few other sources indicated in the text.

[vi] Nowadays, the Federal Trade Commission (FTC) is composed of seven major organizations:

(1) ***The Commission*** - The FTC is an independent agency that reports to Congress on its actions. The Commission is headed by five Commissioners, nominated by the President and confirmed by the Senate, each serving a seven-year term. The President chooses one Commissioner to act as Chairman. No more than three Commissioners can be of the same political party. (2) ***Bureau of Competition*** - This Bureau is the FTC's antitrust arm. It acts to prevent business practices that restrain competition, such as monopolization or anti-competitive mergers. It thereby ensures that the marketplace continues to provide a full range of product and service options for consumers to choose among. That marketplace competition will in turn help ensure that consumers have the benefit of low prices and good product variety. The Bureau's actions include individual company investigations, administrative and federal court litigation, and consumer and business education. (3) ***Bureau of Consumer Protection*** - This Bureau's mandate is to protect consumers against unfair, deceptive, or fraudulent practices. The Bureau enforces a variety of consumer protection laws enacted by Congress, as well as trade regulation rules issued by the Commission. As is true of the Bureau of Competition, its actions include individual company investigations, administrative and federal court litigation, and consumer and business education. Both bureaus also contribute to to the Commission's ongoing efforts to inform Congress and other government entities of the impact that proposed actions could have on consumers. (4) ***Bureau of***

Economics - This Bureau helps ensure that the FTC considers the economic impact of its actions. To achieve this, the Bureau provides economic analysis and support to antitrust and consumer protection casework and rule-making. It also analyzes the impact of economic government regulation on competition and consumers and provides Congress and the Executive Branch with economic analyses of various aspects of the American industrial economy, when requested. (5) ***Office of the General Counsel*** - This office is the Commission's chief legal officer and adviser. Its principal responsibilities are to represent the Commission in court, provide legal counsel to the Commission, its operating bureaus, and other offices, and exercise certain delegated authorities. (6) ***Regional Offices*** - these offices conduct investigations and litigation, provide advice to state and local officials on the competitive implications of improved actions, recommend cases, provide local outreach services to consumers and business persons, and coordinate activities with local, state, and regional authorities. (7) ***Office of the Executive Director*** - is the FTC's chief operating officer and manager, responsible for such administrative matters as budget, personnel, and information management, as well as overall FTC program and policy execution. This office also handles all initial requests for information under the Freedom of Information Act. Although enforcement activities are cleared through appropriate bureaus, the Commission's regional offices operate under the general management of this office. (extracted from the FTC site at http://www.ftc.gov)

[vii] As Kovacic (1999) remarks, "*Maple Flooring* holds special interest for economists today because it featured the Supreme Court' s first citation to an economist' s work in an antitrust decision -- in this instance, to underscore how access to information might enable producers to make efficient output and pricing decisions. *Maple Flooring*' s author was Harlan Fiske Stone, a former dean of Columbia Law School, who favored using social science literature to resolve legal issues."

[viii] Cf. Tirole 1988.

[ix] Richard Posner, largely known as the brilliant Chief Judge of the U.S. Court of Appeals for the Seventh Circuit, came by his conservative legal views later in life. In fact, after graduating first in his class at Harvard Law School in 1962, Posner went to work for a series of prominent liberals: as a clerk for Supreme Court Justice William Brennan, as an assistant to a commissioner on the Federal Trade Commission, and then as a staffer for Solicitor General Thurgood Marshall.

It wasn't until he began teaching at Stanford Law School in 1968 that his politics turned more conservative. There he came under the influence of Aaron Director and George Stigler, two conservative economists and towering intellects who had spent most of their careers at the University of Chicago. Posner himself moved to the University of Chicago the next year and soon became a leading apostle of what has come to be known as the Chicago school of law and economics. In 1973, Posner published his first book, The Economic Analysis of Law, which showed how economic principles could be fruitfully applied to many legal problems. This book was critical in establishing law and economics as a field that professors could understand and affiliate themselves with and begin to teach.

Three years after that Posner published Antitrust Law: An Economic Perspective, a blistering critique of the antitrust laws as they were then enforced. There he explained his view that breaking up monopolies is not always either necessary or appropriate. The costs that society incurs from monopoly pricing will frequently be outweighed, he argued, by the economies of centralizing production in one or very few firms. Together with Robert Bork's 1978 book, The Antitrust Paradox, Posner's work probably changed the course of antitrust policy.

[x] "Director was brought to the Law school in Chicago by Henry Simons, with the support of Friedrich A Hayek. He had been a member of the economics faculty in the early 30's, and was also a student of Frank Knight. In 1946, Director assumed the directorship of a university center affiliated with the law school, dedicated to undertaking "a study of a suitable legal and institutional framework of na effective competitive system". Upon Simons's death, Director took over responsability for teaching Simons's course on "Economic Analysis of Public Policy". Subsequent to his law school appointment, Director was invited to collaborate in the teaching of the antitrust course (na area of law particularly open to the influence of economic ideas) and, through his teachings, Director had a formidable influence on Chicago law students, including several individuals _ among them, Robert Bork and Richard Posner _ who went on to be prominent scholars. During his tenure at the law school, Director formally established the nation's first law and economics program (derivative of the school's antitrust project), and, in 1958, founded the Journal of Law and Economics. Cf. Mercuro (1997).

[xi] Other observers (Leonard 1999) accentuate the important role played by institutions such as the John M. Olin and Sarah Mellon Scaife foundations, which provides financial support for law and economics programs at elite law schools. These efforts also targets federal judges; over the past 25 years, at least 460 judges, or nearly two-thirds of the federal judiciary at the district and appellate levels have attended the Economics Institutes administered by the Law and Economics Center of the George Mason University School of Law, according to university documents.

[xii] It must be stressed that, by favouring the reliance in economic methods of inquiry to decide antitrust cases, the courts were also saying that most cases should be decided by a full-scale rule of reason inquiry, which of course raised the cost of litigation.

[xiii] In 1999, using data supplied by a cartel member under the new policy, the Justice Department obtained guilty pleas from BASF and Roche to pay a total of $750 million in criminal fines (an amount surpassing the sum of all Sherman Act criminal fines since 1890) for fixing vitamin prices.

[xiv] We have to keep in mind also that the primacy of the courts, and above all the Supreme Court, in deciding antitrust matters does not eliminate the role of politics, since the Justices are appointed by the President, under approval of the Senate; it merely adds a further noise, tipical of the American system of checks and balances, because due to that the composition and likely outcomes of rulings by the Court is a function of how stable has been the hegemony of any party (and corresponding ideology) in previous decades (since Justices enjoy office until death or retirement at late age).

[xv] One could contest this by pointing that the prevailing logic of the Chicago School also allows for the contemplation of the benefits of free trade, so there would be no contradiction in not raising tariffs on the onset of japanese competition. This person should then explain why the application of antidumping measures under the Super301 against LDC's (Less Developed Countries, in the compassionate slang of multilateral institutions) by the U.S. Department of Commerce doesn't seems to be constrained by the understanding among the courts (in the domestic cases of course) that predatory pricing is not a viable strategy to exercise market dominance **even** if it happens that the predator is the dominant player in that market...

[xvi] Interestingly enough, one could say that the rise of the Chicago-School approach to antitrust, by bringing the economic thinking into a field that was by then still seen as a direct application of the Law, could be better understood as the final victory of a scientific and neutral approach to antitrust issues. In this light ever the post-Chicago approach could be

considered as a late child of this victory. It would be however a gross oversight of the ongoing politization of the very economic theory that one can see today in academy and in the activities of the think tanks that crafts the arguments that frame public policy in the USA. For example, the so called Virginia School has developed a branch of economic reasoning christened "public choice theory", what deals about the non-market decisions made by politicians and bureaucrats, concerning the welfare of the public. This theory states that policy-makers, being rational self-maximizing individuals, will negotiate the outcome of their policies with the many pressure groups interested in the specific policies, seeking their own objectives: political support, career advance, or sheer corruption earnings. The final corolary of the approach, as one could expect, is that the government failures driven by this behavior are still worse than the market failures fought by antitrust agencies, so the remedy is to recommend the abolishment of all antitrust activity by the government _ what is in essence to boost the conservative agenda.

[xvii] The Supreme Court decided that Standard Oil practiced predation; see U.S. v. Standard Oil, 221 U.S. 1 (1911).

[xviii] In fact, analysts as Bork (1978) are _ or were _ of the opinion that the misuse of governmental agencies (i.e., the use of the cost of litigation as an additional burden to the rival firm) was one of the major sources of predatory behavior in the USA.

[xix] Much effort has been taken, by specialists in this field, to establish what that "appropriate measure" should be; we will deal with this later in this paper.

[xx] Liggett later changed its corporate name to Brooke Group, Ltd., but both parties, as well as the Court, continued to refer to the plaintiff as Liggett.

[xxi] In general, the "Harvard School" gives prominence to the market structure and the careful consideration of firm's strategies in dealing with antitrust issues.

[xxii] Of course, in American capitalism there is widespread adoption of profit-sharing incentives for CEO's, so a rational manager should be more concerned about the profits then volume.

[xxiii] Cf. Posner 1972.