Competition, Strategic Behaviour and Antitrust Policy: an Evolutionary Approach*

Mario L. Possas**
Jorge Fagundes***

Summary: 1. Introduction; 2. Competition and market structures: some theoretical references for a normative evolutionary approach; 3. Market power and dominant position in antitrust relevant markets; 4. Antitrust implications of economic efficiency and innovation; 5. Strategic behaviour and innovation in competition policy; 6. Antitrust concerns in developing countries: the case of Brazil.
JEL code: L40.
Key words: competition theory; antitrust policy; evolutionary neo-Schumpeterian approach.

The purpose of this paper is to discuss, using the evolutionary/Neo-Schumpeterian approach, a number of basic issues in competition theory that may have particular bearing on antitrust or competition policy, including a specific focus on the strategic behaviour of firms, which usually remains outside the scope of antitrust analysis. The case of Brazil, more familiar to the authors, will specifically be taken as illustrative.

O objetivo deste artigo é discutir, usando a abordagem evolucionária/neo-schumpeteriana, um conjunto de questões sobre teoria da concorrência que têm implicações nas políticas antitruste e de concorrência, com alguma ênfase no comportamento estratégico das firmas, tema em geral pouco tratado pela análise antitruste. O caso brasileiro, mais familiar aos autores, será usado como ilustração.

1. Introduction

The purpose of this paper is to discuss, at a preliminary theoretical level and with the evolutionary/Neo-Schumpeterian approach, a number of basic issues in competition theory that may have particular bearing on antitrust or competition policy. Its main motivation is double:

(a) although evolutionary or Neo-Schumpeterian theories and analytical instruments deal primarily with competition, their *normative* implications to competition policy, and specifically to antitrust concerns, have not yet been fully drawn, with only a few exceptions (such as Jorde & Teece, 1992);

* *Paper received in June 1997 and approved in Feb. 1998.*

** *Instituto de Economia, Universidade Federal do Rio de Janeiro, Brazil.*

*** *Faculdade Cândido Mendes Ipanema, Rio de Janeiro, Brazil.*

(b) the present international context of *technical change* and increasing demands for *competition and competitiveness strategies and policies* is particularly fit to draw attention to the potential relevance of this approach for competition issues, especially antitrust, so as to stimulate further analytical efforts on the same grounds.

The contents are as follows. Section 2 is a brief theoretical discussion of the nature and scope of *competition* under a Schumpeterian view, focusing the dynamic role of firms and markets in an innovative and evolutionary environment. An important result is the essentially *endogenous* character of *market structures*, whose main antitrust implication is the perception of the extent to which the traditional structuralist approach is limited. Section 3 will discuss the economic and (mainly) antitrust notions of a *dominant position* and of *market power* and its exercise by a firm, as well as the related antitrust concept of a *relevant market* where market power can be exercised. Section 4 will focus on the economic concepts of *efficiency*: productive and allocative, especially on the limitations of the latter. The need for a *dynamic* concept of efficiency will be discussed. Section 5 will suggest that the traditional focus – both to industrial organization and to antitrust – on the *conduct* of firms should be replaced by a wider concern with firm *strategies*, whose longer time span and intertemporal coherence may include conduct as a particular instance. Section 6 will conclude the paper focusing on institutional features, mainly those related with industrial policy concerns with the need for some antitrust allowance for strategic agreements and contracts between large companies directed towards increasing competitiveness instead of lowering competition. The case of Brazil, more familiar to the authors, will be specifically taken as illustrative.

2. Competition and Market Structures: Some Theoretical References for a Normative Evolutionary Approach

The antitrust economic tradition, both theoretical and applied, has largely been resting, for the last 50 years, on the so-called structuralist approach to markets, competition and policy instruments. Its main assumption, shared with the "structure-conduct-performance" heuristic model of industrial organization, is that market structure is the main determinant of business conduct

and strategy, supposed to have very few degrees of freedom from constraints imposed by structural conditions.

The Schumpeterian (or, more recently, its Neo-Schumpeterian/evolutionary extension) approach is certainly not the only one to reject this tradition, but probably is the most prepared to suggest a theoretically systematic alternative. The main reason is that it is founded on an encompassing dynamic theory of competition, instead of on some pieces of static theoretical assumptions held together by stylized facts, like structuralist industrial organization, or even less on static equilibrium analysis of market mechanisms, like neoclassical microeconomics. In addition, its richer potential involves many possible applications, even if its analytical tools are still being molded. One such application is antitrust analysis, based as it is on the protection and stimulus to competition.

At first this could sound paradoxical, since Schumpeter's chief work on the subject contains a veiled criticism on traditional antitrust concerns with big business and market concentration, usually blamed for their "monopolistic practices", as well as an explicit rejection of the atomistic paradigm of perfect competition and the supposed requisite of small scale firms in order to market competition to work (Schumpeter, 1943, ch. 7 and 8). However, as will be shown, this is only apparent, since the Schumpeterian (and now the evolutionary) view of competition is wide enough to comprise monopolistic restrictions as a particular instance of an otherwise dynamic, competitive and even innovative process, both at the firm and the market levels. In short, under this view *competition* is *not* opposed to *monopoly*, the latter being an instance of the former.[1]

Competition in this approach is neither a market price mechanism taken as given nor a set of preconditions of competitive equilibrium (atomistic supply, maximizing rationality with complete information), as in modern neoclassical axiomatic theory. It is not even a process of adjustment to equilibrium positions, leading to the elimination of extra profits and erratic deviations from equilibrium paths. It is an interactive process among economic units aiming at private appropriation of profits and the corresponding increase of capital

[1] *In the dynamic sense that competitive efforts from individual firms aim at and, when successful, entails monopolistic (if temporary) profits, and often (but not necessarily) more concentrated market structures.*

value. This earning of profits neither presupposes nor leads to any kind of *equilibrium*,[2] not even the classical equalization of profit rates.

On the contrary, *disequilibrium* is to some extent the norm, since it results from the very core of competition in no such thing as Schumpeterian view – a variety of systematic efforts to generate deliberate *differentiation* between economic agents in order to create more or less durable competitive advantages that may ensure monopolistic gains, although always temporary and restricted to some specific market segments. There is "normal" profits in any relevant sense. *Ex post* profits (as opposed to expected rates of return on a business) are not logically or empirically related to the amount of money or physical capital employed. Their nature is more akin to quasi-rents or monopolistic gains than to a regular stream of equilibrium factor revenues.

The protection and stimulus to competition – the purpose of any antitrust law – cannot be seen, from this standpoint, as essentially opposed to monopolistic, and especially to oligopolistic positions, or in general to market power as such. The creation and reinforcement of asymmetries, no less than their reduction, are twin aspects of the process of competition. The former, so to say, is its active dimension, through which economic structures are transformed by means of innovations, and inequalities of economic power are disseminated and reproduced. The latter – the only one treated by conventional theories – is its passive dimension, involving adjustments and elimination of differences between agents through imitation, secondary innovations and entry into markets. In no case should equilibrium positions, asymmetries elimination or market power suppression be viewed as intrinsic attributes of the competition process, as in classical or neoclassical theories.

---

[2] *We are referring to the usual* semantic *notions of equilibrium, as defined by Vercelli (1991, ch. 2), and used pervasively in different scientific fields, including economics, which imply both the logical and empirical possibilities of the existence of* disequilibrium *states. Specifically, we take Vercelli's suggestion of defining equilibrium broadly as* the absence of endogenous motion, *implying neither rest nor a stationary state. We are thus rejecting the* sintatic *notion of equilibrium as a* solution *to a system of equations or some logical equivalent, now widespread in mainstream economics since the advent of new-classical macroeconomics, which renders disequilibrium logically impossible, as well as any notion vaguely associated with the presence of some* causal determination *or even some kind of* regularity, *which would make disequilibrium theoretically irrelevant: in both cases, at the cost of turning the equilibrium notion devoid of content and close to a tautology. Our main issue here is not only methodological, as it may seem, but* theoretical, *since under the Schumpeterian view (as will be shown ahead) the economic dynamics is generated through* disequilibria, *not just as an unforeseen result of independent actions, but mainly as a* desired *outcome of* deliberate (monopolistic) profit seeking decisions to innovate taken by firms, i.e., envisaging to create potentially profitable differences in the product or technology spaces that may be privately appropriated – which is the essential feature of competition in the Schumpeterian view.

Neo-Schumpeterian theory of competition takes the *firm* as its analytical unit, since it is the elementary unit of decision and appropriation of profits, the *raison d'être* of competition, and thus the logical unit of the latter. Needless to say, a theory of the firm has been timely acknowledged as a main issue in the Neo-Schumpeterian agenda. The *market* is the *locus* of competition, and may be defined as the economic space of competitive interaction among firms, which is privileged by them in their rivalry and strategic orientation. This implies, of course, a somewhat subjective/expectational component in the definition, besides the usual technological and product substitutability elements.

In a *dynamic* framework and *innovative* environment, market structure is a relevant feature, but neither unique nor unchanging. It certainly can condition, to a greater or lesser extent, business conduct and strategy; but it can also, to a similar degree, be affected by the latter, in a deliberate and possibly radical way, depending on such factors as the stage of the product or industry cycle and the nature and impact of the innovation(s) that created the structural change concerned. Such changes should be seen as absolutely normal – as the rule, instead of an exception –, although its evolutionary features may exhibit a more or less regular (if always unpredictable, due to strong uncertainty) path, depending on the technological trajectories, institutional frame and other sources of structural regularities involved. What is essential to point out is that *market structures* are *endogenous variables* to the competitive process, whose evolution can only be appropriately analyzed through the dynamic interaction between firm *strategy* and market *structure*.

In spite of the chief role of the firm on strategic matters, the market is in fact the central economic space both for theory as for regulatory concerns. Being the *locus* of competition means in particular that the instruments to competitive struggle are primarily defined within the market environment, by specific technical and productive features of each industry and by product characteristics associated to market demand (and not necessarily amenable to exclusive supply side discretion). In addition, market environment provides *systemic* – regulatory, infrastructural, social and even macroeconomic – *conditions* that work in the direction of calibrating the intensity of the competition process and eventually reinforcing, through feedback, the competitiveness of incumbent firms, and as a result of the corresponding industry.

To preserve or to strengthen competition thus implies the creation and reproduction of a *competitive environment*, which involves, on the firm side, the adoption of *innovative*, microeconomic efficiency increasing *strategies*, as well as, on the market side, the presence of strong *competitive pressures*, both internal and potential (entry threat), which may be reinforced by *systemic* competitive factors emerging from positive externalities (infrastructure, skilled labour, public R&D expenditure and financing), macroeconomic, fiscal and credit conditions, industrial policy and regulatory instruments (legislation and enforcement agencies).

The most important antitrust implication is that competition and competitiveness do *not* arise spontaneously, but depend crucially on suitable environmental conditions and, as a consequence, at least to a good extent, on deliberate *policy* design. In short, they must be built up through economic, industrial and competition policies, including antitrust regulatory devices, as well as through business strategies under local and especially worldwide competitive pressures, in a globalized context as the present one. This implies, by the way, a huge distance between the Schumpeterian view on the role of market in a capitalist economy and the liberal one. The latter may be seen as a panglossian praise of market virtues for the *wrong*, static and allocative, reasons; while the former at the same time acknowledges the market's remarkable capacity of conveying progressive impulse through unleashing and channeling the innovative dynamic forces of competition – which requires some degree of conscious public deliberation and institutional (as well as cultural) building up – but also the market's inability to ensure a satisfactory self-regulation, i.e., to avoid coordination failures, economic crises and fluctuations and all kinds of concentration – on market, regional and income levels.

To strengthen competition in this sense does not mean to weaken the competitors (by reducing their size or profitability), as suggested by an often repeated slogan according to which "it is competition, not competitors, which the law protects". In the present approach strong competition requires a strongly competitive *environment*, which in turn presupposes strong, not weak, competitors – *competitive firms*, based on technical, productive and organizational efficiency and capabilities. An atomistic market, composed of insignificant and powerless units, is a deletable fiction of economic orthodoxy that, if pursued by some old-fashioned radical structuralist competition policy would weaken competition to the point of inoperativeness, ensuing damages to consumers and to welfare from a dynamic perspective.

Many other relevant consequences to competition and antitrust policy can be drawn, some of which will be dealt with in continuation. However, in the remaining of this section only two basic additional implications as to *market structure* will be briefly considered: monopoly/oligopoly analytical problems; and market concentration/entry barriers concepts and measures.

2.1 Monopoly, oligopoly and market power in antitrust policy

Monopolistic positions are usually treated in antitrust analysis under the traditional static criteria of microeconomics, implying for a maximizing monopolist higher prices and lower quantities as compared to competitive levels, which for simplicity are assumed always to be the relevant standard. Market power is accordingly defined as the ability to set prices above marginal and unit costs so as to maximize profits at above normal rates. As a result, it allows the monopolist not only to earn an additional part of the consumer surplus but also to cause a net welfare "deadweight loss" to society. Monopolistic positions are therefore supposed to detain, and more or less automatically to exercise, such discretionary power over prices, since it corresponds to act rationally under conventional assumptions.

Oligopolistic markets receive a similar treatment. An old tradition in oligopoly analysis, possibly tracing back to Chamberlin, assumes that rational oligopolists should in principle jointly maximize profits and thus set monopoly prices, unless prevented by some serious coordination problem. The progressive incorporation of game theory in the analysis of strategic interaction under oligopoly made it possible to reformulate the problem with stricter analytical tools. Price rigidities above competitive levels, for example, may be explained by tacit price collusion procedures through "focal points" (conventional prices) or by price leadership, even under strictly non-cooperative individual behaviour principles, although the precise price level remains essentially indeterminate and subject to a mix of structural and behavioural influences. Whatever this level may be, concerted strategies are always assumed to be present and substantially higher than competitive prices to prevail, entailing allocative welfare losses to society, just like monopolies. Accepted exceptions are only the so-called natural monopolies or oligopolies, resulting from high minimum efficient plant sizes relative to market sizes. Such cases are generally tolerated as a "Sub-Paretian" fatality that cannot be eliminated but only corrected through public price regulation, to keep prices just above unit costs.

Throughout this analytical framework a static focus on prices is pervasive. As Schumpeter argued, restrictive conducts conventionally associated to large companies (either monopolistic or oligopolistic) are frequently just a moment, often temporary, of a much broader competition process of "creative destruction" of existing economic structures (Schumpeter, 1943:88). Patents and other legal mechanisms of temporary and conditional protection to monopolistic positions associated to intellectual property are not substantially different from other defensive procedures, not explicitly recognized by law, aimed at preserving competitive advantages reached through innovative efforts which often (although not always) entail an increase in welfare in dynamic perspective. To prevent such monopolistic gains of being quickly exhausted by easy imitation and early diffusion[3] is a necessary condition to ensure adequate economic returns to successful investment (mainly R&D) in innovative activities, so as to stimulate larger flows of such investment and resulting dynamic welfare increase effects. To distinguish between such cases and mere abuse of a monopolistic position is not an easy task, where no simple, general and operational rules are to be found, but it would be better to antitrust economics to acknowledge the problem in order to face it than to ignore it.

A last comment on the distinction between monopoly and oligopoly situations may be useful. Although old-fashioned and lighter approaches to oligopoly tend to reduce it to a monopoly-equivalent in terms of potential market power and welfare loss, an increasing part of antitrust economics tend to assume a somewhat more indulgent view, based not on the simple number of competitors but on a qualitative distinction between the two market forms. As noted by Williamson (1986:224), "it is naive to regard oligopolists as shared monopolists in *any comprehensive sense* – especially if they have differentiated products, have different cost experiences, are differently situated with respect to the market by virtue of size, and plainly lack the machinery by which oligopolistic coordination (...) is accomplished and enforced" (original italics).

As modern contributions to industrial organization have shown, efforts towards tacit collusion (*a fortiori* cartels) are very complex and often fail due to the difficulty of preventing "free riding" and of coordinating focal price or price leadership. From a dynamic Schumpeterian standpoint, however, it is important to add the extreme difficulty or even impossibility of prevent-

[3] *"Rent dissipation" in the literature (Jorde & Teece, 1992:52).*

ing rival *innovative* competitive efforts, or "innovative free riders", capable of breaking attempts to coordination aiming at the stabilization of market structures, in oligopolies whose patterns of competition involve substantial innovative dynamism.

2.2 Concentration and barriers to entry

Antitrust economics and law have long ago incorporated the industrial organization traditional concern with industrial concentration and its measures, as a summing up of market structure conditions that may favor anticompetitive conduct. However, both the theoretical basis and the empirical support for this claim are now largely objected.

On theoretical grounds the meaning of industrial concentration is doubtful, as well as its many possible measures. Concentration is by definition only a mixed index, capturing both inequality and fewness effects of market shares, which is believed to reflect synthetically different market structure dimensions (but which includes also some non-structural elements). It has no precise theoretical content; a clear inference from higher concentration to higher market power and greater probability of, for instance, tacit price collusion in an oligopoly cannot be directly drawn. Such relationship, if arguably existing to some indefinite degree, involves no direct causation. In addition, from a dynamic standpoint, *strategic* variables should be seriously considered besides structural ones.

On the empirical side, countless regression tests were made in the last 40 years between concentration and other variables (especially performance ones, like profit margins) with frustratingly inconclusive results, even concerning the *direction* of causality (Geroski, 1988:176-8). The main current trend is to treat concentration and profitability as simultaneous endogenous variables, as functions of the complex interaction between cost, demand and strategic (expectational) variables. The implication for antitrust analysis is that the old notion that market structure indicators are a sound guide to potential conduct and therefore to policy are no longer seen as valid. Of course some role is still ascribed to well chosen concentration indices,[4] but only as a first

[4] *The Hirshman-Herfindahl index (HHI), usually employed in the US by the FTC and the courts, now spread worldwide, is one of the best both technically and operationally for antitrust analysis on account of being more sensitive to largest size shares than to many smaller units share, whose figures are usually hard to access and calculate.*

sign as to the existence of market power and the consequential possibility of some anticompetitive conduct. In short, concentration is only a *necessary*, far from sufficient, condition for the accumulation of asymmetric market power and the potential exercise of such power in an anticompetitive way.

But it should be reminded that the structuralist tradition was never limited to market concentration, regarding potential competition and *barriers to entry* also as an essential part of market structure analysis, which was timely taken over by antitrust economics and is now soundly established in the official guidelines to the assessment of possible anticompetitive conduct in a market, also (not only) as a result of mergers and acquisitions (US Department of Justice & Federal Trade Commission, 1992:25ff; Afonso, 1992:20-1). Despite such diffusion, the concept of structural barriers to entry has not always been correctly understood and used by antitrust agencies and by courts, especially in less developed institutional environments. Sometimes reference is made to the "creation" of entry barriers as a consequence of mergers or acquisitions, caused by some obscure anticompetitive conduct resulting from added concentration, instead of such barriers being logically pre-existent to present market configuration and market shares, which is their real structural meaning.

On the other hand, there are many degrees of freedom for market configuration in a given moment regarding the level of barriers to entry as a basic structural condition. It is a well-known stylized fact that actual market structures and concentration figures can seldom be explained by minimum efficient plant scales. Some room should then be given to *strategic* and even to casual factors influencing existing market structures. It should be reminded that even the traditional "limit pricing" theory by J. Bain and P. Sylos-Labini, on the effects of barriers to entry on market structure and pricing, was already dependent to some extent on strategic issues, instead of putting emphasis solely on structural conditions – as stressed by recent interpretations based on game theoretical concerns –, since it assumes at least:

(a) that incumbents want to preserve the existing industry and market structures, instead of (for example) introducing some sort of radical innovation;

(b) that potential entrants conjecture that incumbents would engage in post-entry hostile reactions, such as price cutting (the so-called "Sylos postulate").

To incorporate strategic concerns, and consequently to loosen structural determinism in antitrust analysis, is a decisive step required more than ever by contemporary conditions of intense competition to evaluate the extension and speed in which interventive measures in a market may succeed in preventing undesirable anticompetitive losses stemming from, say, a merger, more effectively than the market could do by itself. It necessarily involves a careful and specific analysis of the conditions of entry, whatever the present concentration figures, since "entry is the natural market response to excess profits, and the assurance that entry forces are strong and operate in a very pro-competitive fashion would reduce the need for a strong and vigorous antitrust policy, regardless of concentration levels (...) antitrust policy can only be justified by showing both that such abuses exist *and* that the antitrust authorities can eliminate them more quickly than the market would anyway" (Geroski, 1988:182).

3. Market Power and Dominant Position in Antitrust Relevant Markets

The antitrust concept of relevant market is crucial to the analysis of potential anticompetitive effects from operations entailing market concentration increases and/or business conducts by firms supposed to have market power, since it is by definition in an economic space so delineated that anticompetitive practices are expected to be possible.

It can be seen from start that the notions of market power (or the slightly different one of market dominance) and (antitrust) relevant market are strongly interrelated. The most accepted definition is that by the US Department of Justice and FTC's *Horizontal merger guidelines* (1992:4): "A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a 'small but significant and nontransitory' increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test".

A market is thus only "relevant" for antitrust purposes if it is an economic *locus* (both on product and geographic spaces) where *some* market power could *a priori* possibly be exercised, while market power obviously presupposes a

market definition such that it can logically be exercised. The only difference is that the relevant market for any concrete antitrust application is by definition the *smallest* market conceivable; other, more aggregate, ones could also (if existent) give rise to market power and its abuse.

Such definition involves a deliberate hypothetical exercise of assessing a possible anticompetitive effect, expressed in terms of market power over *prices*, resulting from operations entailing greater market concentration, or from conducts attributed to firms that are presumed to detain such power, obviously in concentrated markets. In a few words, it expressly proposes to *define* the relevant market so that a (supposedly abusive or anticompetitive) exercise of market power could be, first, *logically* possible. A clear necessary condition for that to be feasible, irrespective of further strategic considerations, is that *structural* technical and economic conditions may exist so that their presence may render it possible, and their absence strictly impossible, for *market power* to exist and therefore to be hypothetically exercised, even in anticompetitive ways.

What are these structural features? From the definition they are simply two: the price *elasticities* of demand and of supply. Such elasticities are expected to be so *low* that an eventual market power exercise of price increase, assuming it starts from a nearly competitive situation, may in principle be able to *increase profits* of a profit maximizing hypothetical monopolist or oligopolistic cartel. The emphasis is put, as usual in conventional microeconomic applications, on demand elasticity. Leaving aside income effects, it is assumed to reflect *product substitutability* effects on the consumer side. The microeconomic logic is as follows: assuming a monopolistic maximizing price behaviour to take place in the market, starting from a near competitive situation, price will increase (as well as demand elasticity, and quantity will reduce) to the point that marginal revenue is high enough to equal marginal cost and profits are led to a maximum.

The supply side should be treated symmetrically, as in all neoclassical microeconomic tradition, but it is only introduced later with a view to define which suppliers should be counted as participants in the relevant market.[5] This intriguing procedure is probably an operational bypass to the trap posed

[5] *"Market definition focuses solely on demand substitution factors – i.e., possible consumer responses. Supply substitution factors – i.e., possible production responses – are considered elsewhere in the* Guidelines *in the identification of firms that participate in the relevant market and the analysis of entry" (US Department of Justice & Federal Trade Commission, 1992:4).*

by the hypothetical monopolist assumed in the very definition, since a supply function cannot be defined under monopoly. Anyway, it should in principle be given as much emphasis as the demand side, and in practice – mainly within a globalized world economy – it may involve even more important preventive credible threats to anticompetitive price increases (as import supply increases, for example) than product demand substitution. In short, supply elasticity sources are typically potential supply sources consisting of already existing unused productive capacity, or even used capacity which can easily be reconverted to the relevant products, domestically or through imports, that could provide a quick supply response to a hypothetical monopolistic price increase in the market.

The *Guidelines* also provide an interesting distinction between: such a ready supply response to a "small but significant and nontransitory" price increase, which is supposed to occur within one year and not to involve significant sunk costs of entry and exit, and whose corresponding firms are called "uncommitted entrants"[6] and *must be included* among the supply participants of the relevant market; and a slower supply response through new capacity that involves significant sunk costs (such as in specific assets, technologies and markets), investment expenditures or required time to increase supply. These are called "committed entrants" and are taken into account in the analysis of the conditions of entry, *after the definition* of the relevant market.

Entry in the relevant market is expected to be carefully analyzed basically concerning its timeliness, likelihood and sufficiency conditions (US Department of Justice & Federal Trade Commission, 1992:25-30). The analysis of entry in the relevant market is the most important step in antitrust analysis towards the assessment of the structural preconditions for an anticompetitive conduct (primarily on prices) to be likely. It adds to the logical possibility of market power to take place in a given contour – the "relevant market" definition –, another prerequisite that completes the set of all necessary structural conditions for market power to exist and to be eventually exercised: the intensity of existing barriers to entry in the market, which may or may not allow a significant and persistent price increase, corresponding to the structural "limit pricing" condition.

---

[6] *This label is misleading, since the very definition implies that there is no investment in new capacity and therefore no* entry *strictly speaking, only a source of "potential supply".*

However ingenious and useful this definition may be, it clearly concedes a good deal of analytical precision to the need of definite operational parameters in order to be applicable by law enforcement agencies and courts. Besides some already noticed possible sources of confusion, two major conceptual shortcomings should be acknowledged: the restrictive notion of market power and the absence of oligopoly.

Regarding market power, it should be noted that this is tributary of another, even less precise, notion: that of economic power. Both share an essentially correct view, in the tradition of political economy, that economic relations are pervaded by power relations between agents. Needless to say, such view is dominant in antitrust culture, for which asymmetries of economic power are as "natural" in the real world of competition in capitalist markets – in contrast with the pacific and homogeneous image shed by orthodox microeconomics – as the resort to disciplining regulation of competition is found to be necessary. Market power, in particular, has been for long defined and used in industrial organization as the discretionary power to set *prices* in a given market. Textbooks in the discipline usually waste no time with definitions and refer directly to "monopoly power", which in turn is defined as the ability to set prices above competitive levels and to earn above "normal" profits (Scherer & Ross, 1990:21).

Sometimes the restrictive character of the definition is admitted, such as in the FTC *Guidelines*, which, after defining market power conventionally, also recognizes in a footnote that "sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation" (US Department of Justice & Federal Trade Commission, 1992:2), although nothing else is made of this. The basic point is that what is understood as restrictions to competition depends obviously on how competition is defined. Since mainstream economics always reduced competition to *price* competition – including in this case the otherwise less orthodox industrial organization concept –, it is simply natural that restrictions to competition associated to market power should be seen as setting prices well and persistently above marginal and unit costs.

But once the scope of competition is enlarged to encompass other forms of action and instruments, as in the Neo-Schumpeterian view – centered in innovative capacity of firms in a broad sense, involving deliberate *differentiation* between competitors in many more dimensions than costs and prices –,

the scope for anticompetitive practices is comparably enlarged. Even more important than this larger scope is the introduction, by this theoretical view, of a "disequilibrating" dimension through the Schumpeterian concept of *innovation* processes as an intrinsic characteristic of capitalist competition. As a consequence, not only competition and monopoly cease to be taken as antagonistic concepts, as already seen, but even *market power* and corresponding "monopolistic" or above "normal" profits should be seen as *normal* features within a competition process, instead of as an anomalous result of some market failure, essentially contrary to the consumers' interest and to welfare. One may even go as far as to say that market power is *desirable* in many circumstances, especially in economic activities characterized by strong innovative and technological dynamism, in which some perspective of private appropriation of extra profits may be necessary to render investments in R&D and specific assets under high risk and uncertainty feasible at some minimum level and pace.

What about the *rationale* of the conventional definition? Despite all this oversimplification, it still has the justification not only of operationality but especially of being a simple first sign of the existence of *potential (structural)* conditions for market power *in general* to exist and to be performed in *any* of its forms. In other words, market power in terms of prices is a mere general indicator of the structural presence of market power *in general*, whatever its eventual form – in prices or otherwise – and use – innovative or anticompetitive.[7] Of course, future conduct cannot be reliably predicted, but only to some extent inferred through strategic and reputation concerns. Nonetheless, the basic lesson drawn from the Neo-Schumpeterian view is that the potential direction of market power use (or abuse) should not be prejudged as necessarily harmful to competition and welfare, and consequently repressed, from a dynamic standpoint.

A second oversimplification is implied by the almost complete absence of oligopoly in antitrust analysis. The main cause is certainly its complexity, although some recent efforts may be greeted (Fisher et alii, 1989, is a good example). The main difficulty is to deal with strategic interaction between competitors, which lead to indeterminate results even in economic models

[7] *But even then there remains some important operational indetermination, since the boundaries (and the definition) of the relevant market depends on how big a percentage price increase should be to imply market power: 5% and 10% are usual figures in US, with substantially different consequences as to relevant market delineation (Fisher et alii, 1989:801).*

employing game theoretical tools, since they are always strongly sensitive to specific strategy or behaviour assumptions, usually taken *ad hoc*. Even in simplest applications conjectural behaviours must be considered: this may introduce some strong oversimplifying bias in the analysis, such as assuming price taking Cournot strategies on quantities, which is most unrealistic for oligopolies. The alternatives are usually no more rewarding as far as realism is concerned, or else too much complicated for an operational analysis to be feasible.

However, to approach oligopoly from a monopolist-pricing cartel standpoint, as in the above mentioned *Guidelines* definition of relevant market, has at least the *rationale* of focusing the *worst* possible outcome of a concentrated market concerning price levels and resulting potential welfare losses. Since theoretical and technical difficulties to deal with oligopoly are expected to remain for a long time, it would make sense to accept this limitation and at least to search for additional doses of realism regarding antitrust applications to market power and economic efficiency concerns, introducing dynamic features of competition in the analysis of oligopolistic market structures, even at the cost of some analytical precision, which, in present state of art, may well be illusory.

4. Antitrust Implications of Economic Efficiency and Innovation

The economic notion of efficiency has been used in at least three different meanings. The first two are relatively straightforward and put no real controversy: *productive* efficiency, defined as the maximum yield feasible with a given technology, which generally implies to minimize economic costs; and *distributive* efficiency, associated with the conventional "normal" returns to resources employed, implying the static market function of eliminating rents or extra revenues. The third, *allocative* efficiency, more relevant for normative concerns, is much more controversial, especially because of the Pareto criteria on which it is conventionally based by mainstream economic theory.

In the first place, its strict dependence on general equilibrium model assumptions for its main results to be valid – the so called welfare theorems – is a major handicap, as a result of the extreme unrealism of that model. The alleged biunivocal relation (under some additional constraints) between general competitive equilibrium and Pareto efficient allocations, besides being too static, can only make sense in a theoretical and empirical context where the

concepts and properties concerning competition are those assumed by general equilibrium analysis: perfect competition in all markets, existence of markets for all contingencies, and the absence of false trading (and of income effects as well as money effects), of increasing returns in production and of all kinds of externalities. Real world conditions that often imply one or more of such features are seen as "market failures", instead of as a failure of the competition model itself, methodologically uncompromising as it is to any requisite of realism.

On the other hand, the usual assumptions of market ability to achieve equilibrium through self regulation, and therefore to promote Pareto efficient allocations, are entirely dismissed by the Neo-Schumpeterian theoretical concepts of competition and markets. Under the latter, such static allocative criteria are not very relevant, to say the least, since the focus is directed to the dynamic properties of competition and markets, whose allocative impact, and corresponding normative implications, should instead be seen from the perspective of generation, selective filtering and diffusion of Schumpeterian (*lato sensu*) innovations.[8]

A step further is the newly proposed notion of *dynamic* efficiency, suggested especially to normative applications in antitrust literature (Jorde & Teece, 1992, "Introduction"), and involving basically an intertemporal allocative trade-off between present and future welfare. As there are no means to assure that some sacrifice of present welfare due to overcompetitive prices will eventually be compensated by efficiency gains entailing future cost reduction and/or better products, it still faces some resistance from antitrust agencies and scholars. The deep-rooted (and usually sensible) fear of loosing control over monopolistic market power and its potential damage to competition makes it difficult for the authorities to accept arguments in favor of, say, allowing a merger with alleged *future* efficiency increases based only on present promises of innovative efforts and investments by oligopolistic firms, if it is considered for sure to significantly increase concentration and market power. The immediate fight against monopolistic market power exercise or creation is still seen as the major purpose of antitrust policy (Areeda, 1992).

Nevertheless, there is a growing acceptance of merger (as well as acquisitions and joint ventures) defenses on the basis of a well founded presumption

[8] *A recent thorough criticism of conventional welfare allocative criteria from an evolutionary perspective may be found in Metcalfe (1995).*

of efficiency increase promotion through technical and/or organizational innovative or competitive efforts by merging firms, provided consumers are to some extent benefited and competition is not substantially impaired (Afonso, 1992). But in spite of being an important step forward, such notion of a dynamic efficiency still suffers from the limitations of the traditional Pareto allocative theoretical reference, to which is only added an *intertemporal* criterion of allocative efficiency in the form of a Pareto efficient resource allocation between present and future by, say, a merging group of firms (Baumol & Ordover, 1992).

The Neo-Schumpeterian approach, on the other hand, tends to see this kind of *dynamic efficiency* of markets through its (dynamic) view of *competition itself*, and not only through intertemporal allocative effects, as seen from a comparative static analysis. In this sense, a notion of *selective efficiency* of markets would be largely preferable, supported by the Neo-Schumpeterian/evolutionary tradition set up by Nelson and Winter (1982) of treating markets as a *selection environment* of innovations in a broad sense. Again, an efficient operation of markets in this view dispenses with any equilibrium and related static allocative optimization concepts. It requires a sufficiently *competitive environment*, so that successful *innovations* can find their way through the market by means of an intense pace of generation and diffusion, within limits allowed by technology and resource availability.

There are at least two basic theoretical points which distinguish this view from the more conventional dynamic intertemporal (allocative) efficiency.

First, as mentioned before (and further discussed below), in spite of some regularities resulting from technological trajectories and institutional inertia, innovation decisions by capitalist firms are taken under hard uncertainty, which implies non-ergodic processes and strong unpredictability. Both for private strategies as for policy makers, the future outcome from *innovations* – which play the central role in competition under this view – cannot be foreseen within any predetermined confidence interval. Technological as well as industrial trajectories are *path dependent* and lead to *open ends*, making it extremely difficult to assess and compare possible outcomes from different strategies or decisions.

Second, competition usually involves many relevant variables, the nature and number of which depend very much on the characteristics of that particular industry and technology. To reduce them to prices and costs, as usual in

static allocative microeconomic analysis, for the sake of analytical simplicity, may be a highly distorting shortcut. From the Schumpeterian viewpoint, not only are product innovations considered as a normal part of the scenario, but even as a *major* protagonist of competitive struggle. As a result, in this view, more or less frequent and radical qualitative *changes in the product space* can neither be ignored nor even taken as exogenous shocks, but *must* be seen as an *endogenous and major part* of the usual competition process, although differently paced and effected in each sector. It goes without saying how much more difficult it makes to proceed to formal analysis and welfare assessment from this theoretical standpoint, which probably explains a good amount of reticence from Neo-Schumpeterians to deal with the normative implications of the theory.

At this point only very general welfare consequences of the Neo-Schumpeterian view can be drawn.[9] One may assume, first of all, that innovation processes are essential to economic development and that their social benefits – not only difficult to assess, but impossible to appropriate immediately, as noted by Schumpeter – are usually much *higher* than what may accrue as profits to private business, without which capitalism would be impossible anyway (Jorde & Teece, 1992:60). In other words, to the extent that competition process is (mainly) based on innovations – and such is the case in capitalism, as argued by Schumpeter (1943) –, it may reasonably be expected to generate through time (not immediately!) welfare increases, stemming not only from price reduction but also from quality improvement and greater product variety, that may largely exceed private monopolistic or windfall profit appropriation from innovators.

As to the market as *competitive environment*, since private companies are the agents of this process, the competitive pressure exercised by the market as a *selective (innovative)* environment cannot be logically set against the specific strength, and corresponding market power, of individual firms. In other words, these must be able to nourish and expand their own resources through minimum profit margins capable of supporting financially sound growth. A potential trade-off between market competitive pressures (which include regulatory aspects) and individual power associated to *independent* capacity by firms to act and react strategically, even under such pressures, is certainly a

[9] *Much further analytical work on the subject of* selective efficiency *and its possible consequences for normative and policy implications of Neo-Schumpeterian theory is obviously required, but it completely exceeds the scope of this paper.*

complex normative problem to deal with, but one that should receive high priority instead of being set aside by antitrust guidelines and policy.

An important current competition policy issue under this general concern is that of interaction between firms, or even of joint ventures and mergers, in an innovative context. The antitrust policy has been dealing with mergers and acquisitions for a long time: since its very beginning in legal terms, and at least for the last 20 years in a more economic and technical fashion. Current antitrust culture and legal practices are more responsive than ever in the past to expected or alleged efficiency increases arising from such operations as a compensation for the expected weakening of structural factors of competition that they tend to produce. A long lasting technical controversy was even started by the Chicago school as to what kind of welfare effect of price increase due to market power enhancement should antitrust policy care about (Fisher et alii, 1989:783ff.): the so-called deadweight welfare loss due to monopoly (Chicago), or else the net income transfer from consumers to producers (other commentators, probably right as to antitrust legislation original concerns).

Whatever the conclusion, it is now as clear as a matter of principle that the so-called *per se* rules of antitrust law interpretation and application are no longer valid and must be replaced by a *rule of reason* approach. This means an almost case by case analysis under some basic criteria and, in the present issue, under the assumption that operations substantially increasing concentration may well be harmless, but they have the burden of proving it by means of well defined and demonstrated "efficiencies" the operation is allegedly able to introduce, as a *compensation* – the amount of which is variable – for the inevitable reinforcement of market power and of probability to behave collusively that will also arise.

But to deal with strategic alliances, mergers and acquisitions in a strongly innovative environment is a different thing, and even more complex. Innovation increasingly requires *cooperation* between economic units, not to suppress competition, but rather to turn them more competitive, if market competitive pressures are tight enough. Business and industrial restructuring towards greater competitiveness often involve also acquisition, construction or reutilization of *complementary assets* between such units, either in technology, production, distribution, marketing, sales or services (Fisher et alii, 1989:53). Many such assets are *specific*, involving low flexibility and transferability, and high uncertainty and sunk costs. They require more sophisticated contracts

and a more durable relationship between partners than usual in order to save on transaction costs.

The assumption that such contracts, partnership alliances and even mergers or acquisitions should fatally lead to cartel behaviour, although not out of question, is more unlikely in such innovative and competitive contexts as prevail today in many markets. Provided expected potential efficiency increases emerging from these mergers, acquisitions, joint ventures or strategic contractual alliances can be demonstrated under reasonable and reliable criteria, as well as monitored throughout, antitrust policy will probably be acting dynamically in favor of competition and welfare when allowing such operations, subject to specific efficiency performance commitments.

5. Strategic Behaviour and Innovation in Competition Policy

The usual notion of a firm's conduct requires no sophisticated theoretical elaboration, being only a traditional industrial organization shorthand term for any behaviour on prices and quantities involving some decision as to whether to collude or not with others. Behind it there is the structuralist assumption that market structure is a strong influence or even a determinant of conduct. This is certainly true in a weak sense, since entirely unconcentrated market structures would never allow significant market power to arise and any collusion to be possible; in other words, market concentration is only a *necessary* condition for all this to occur. But the (re)introduction and development of game theoretical concepts and tools in the core of industrial organization in the last two decades has made a lot to replace this uncompromising notion by the much stronger one of *strategic interaction*, whose potential to explain structure and behaviour co-movements is much greater.

However, even *strategy* as employed by game theory is still disappointingly meager and even misleading, in at least two interrelated ways: first, it is not clearly distinguished from simple *behaviour*, i.e., its time-persistent content, as almost systematically present in common language and non-economic uses, is not stressed enough in game theoretical industrial economics; second, maybe more important in theory, it rests almost entirely on the basic neoclassical assumption of *substantive rationality*, in this case profit or payoff maximization, with all its unrealism and shortcomings, which we need not go deeply into here. Let us only point briefly to some preliminary requirements to deal consistently with economic strategies.

A fundamental point of departure is to acknowledge, along with H. Simon and many others, that economic decisions in a capitalist economy are inevitably embedded in an *uncertain* and *complex* environment, precluding the mere maximization of an objective function. First, because such function cannot be well defined and must remain *incomplete* as a result of strong (Knightian and Keynesian) *uncertainty*, irreducible to risk and, therefore, to any (even probabilistic) calculation, including Bayesian subjective probability updating models of expectations formation, such as most models of rational expectations. It should be noted that this implies not only a radical ignorance of future outcomes, but also (and even more seriously) the *indeterminate* nature of economic processes, which means that *past* events cannot be completely understood either. Technically it implies assuming that the economic world of markets is a non-ergodic and non-stationary one. The evolutionary perspective can add a lot to this theoretical view, because the structural instability of the economic environment owes very much, even decisively, to the Schumpeterian concept of an all embracing innovation process intrinsic to the capitalist economy.

Second, because the assumption that rational agents *maximize* some expectational objective function presupposes not only that this is technically feasible but also economic viable, whereas the *complexity* of the decision process may very often be extremely costly and even inaccessible. Such complexity comes from the very beginning – the search and collecting of relevant information, which usually involve hard to meet *cognitive* requirements to the decision maker –, and goes on to the information processing and calculation, which may involve huge computational needs. H. Simon's *procedural* criteria, assuming cognitive and *active* search and model-building activity by the decision maker, are surely much to be preferred for a non-neoclassical economic theory, as well as his *satisficing* principle of rational response – to do the best that can be done under such constraints to adapt the existing means to the desired ends.

As Simon's original works had already pointed out, it is precisely under such constraints or "boundaries" to rationality that the adoption of less than optimal decision procedures (*satisficing* ones) makes sense, especially the use of *routines* and "rules of thumb" in so many instances of business decision making. The same result applies to the strong sense of *strategy*, as a steady sequence of coherent decision steps the decision maker is committed to. It

would make no sense and should even be taken as plainly irrational in an ergodic economic world where expectations could be reduced to probabilistic certainty equivalents, as in rational expectations models. Conversely, to build up and follow a particular non-maximizing strategy, among many others that may equally apply to be chosen, is a typical way of *being rational* under strong uncertainty and complexity that shape our non-ergodic real economic world.

As explained in R. Heiner's models regarding the use of routines – a less deliberate and usually more detailed and specific, although related, notion –, but which can easily translate into our strategic context, there may be significant costs and risks of error in changing current decision routes to account for the latest information or market signal, as compared to follow the present strategy and/or routines. In short, a non-ergodic economic world is one in which (market) signal and noise are neither deterministically nor statistically separable *a priori*. To stick to a strategy, within some pre-established parameters and acceptable deviation, may be the most sensible decision to make – especially when the environment instability owes much to high rates of innovation (Heiner, 1983).[10]

Moreover, some degree of *market power* is a logical precondition to *strategic behaviour*. It would make no sense for a price taker in a perfectly competitive market to make decisions or choices involving different variables, scenarios or objective functions. It follows that some market power is also a *normal* feature of a non-ergodic and innovative economy. In addition, market power turns out to be another complex and ambiguous notion: it is a *necessary* condition for a competitive environment to exist, but at the same time its excessive accumulation and concentration may be dangerous to preserve the same competitive context. A preliminary policy concern on the subject would be to try to keep the *market power amount*, as well as its *use*, within these broad limits, in order to direct it as much as possible to pro-competitive – i.e., innovative – trajectories.

Another result to be stressed from accepting the redefinition of rationality as *bounded*, and thus compatible with *strategy* building, is the *diversity* of possible equally rational solutions allowed for. Rational decisions are no longer expected to fit to a unique process and to produce unique solutions. It is worth emphasizing that the existence of *multiple* possibilities of economic trajectories

[10] *For a further methodological discussion, see Vercelli (1991, ch. 5 and 6). See also Dosi & Egidi (1991) for a specific treatment of innovative strategies.*

from the very microeconomic basis opens up new paths for dynamic economic analysis. The Neo-Schumpeterian approach has particular affinity with such microfoundations, since it is based on the innovative process as an essential feature of entrepreneurial economic activity and of its competitive interaction, which is responsible for the creation and diffusion of *asymmetries* and *diversity* in production, technology, organization and distribution. Such asymmetries, as already noted, are to be seen as *normal* features of competition instead of transitory deviations from equilibrium paths.

Not all outcomes and trajectories are then possible, nor regularities are necessarily absent. On the one hand, the rejection of unique equilibrium positions as a theoretical norm does not preclude any sound economic analysis to be made, as assumed by the conventional wisdom of most economists. On the other hand, some regularities surely exist and *by no means* depend on stable equilibrium positions being defined and reached. In an evolutionary approach, *structural* regularities may well emerge both from *technological trajectories* as from *institutional* features, in their crucial role, for a potentially unstable economy, of reducing uncertainty, providing guidance to expectations and strategies and coordinating decisions. They may also contribute to dampen the dispersion of signals and variables that might reinforce through positive feedback endogenous trends towards instability, due to synergies, cumulativeness and other *path dependence* creating micro-macroeconomic mechanisms that abound in capitalist economies.

The persistence of technological regularities over the economy and over relatively large time spans, as expressed, for example, in the concepts of technological trajectories and paradigms (Dosi, 1984, ch. 2), as well as the permanence of institutional and other structural regularities, certainly does not imply in any relevant degree homogeneity of technological and economic decision variables, and therefore of *strategies*. Each technological trajectory within a given technological paradigm may offer many different possible ways of taking *opportunities* and turning them into alternative means of private *appropriability* of profits (Dosi, 1988), and this also entails, among many other factors, a *strategic diversity*.

Under such structural regularities, some *patterns of competition* eventually arise within each industry, or a more or less homogeneous market space (usually conforming a market structure). A combination of such patterns – the need for more precise analytical contours should not detain us here – may

eventually lead to a *competitive environment*, for sure an interesting concept for Neo-Schumpeterian analysis. In such a context, a combination of innovative and market *opportunities* with *competitive pressures* on firms, within the constraints and possibilities posed by the structural boundaries, will be responsible for the creation, diffusion and improvement of innovations – in a word, for the working of the "market" (in a general sense) as a *selection environment*, as defined before. The *interaction* between *competitive environment, business strategies and institutions (including policies)* is the chief mechanism through which competition works its *evolutionary* role of technical and economic *selection.*

Institutional forms of the competitive and innovative process certainly deserve a prominent place in this frame of reference. Both the patterns of *competition* and of interaction among firms and the mechanisms of *coordination* by State regulation and intervention have undergone deep historical changes. Institutional "rules of the game", as well as competition law, culture and policies, have followed structural transformations. Under the so-called "new technological paradigms" several kinds of economic *cooperation* among firms have emerged, bringing in a somewhat misleading impression that *competition* is losing strength in favor of more cooperative agreements. But the real trend is clearly in the opposite direction: competition seems to be stronger than ever, there being no reason to expect that strategic alliances between large companies may weaken its force.

There seems to be a misunderstanding at this point: cooperation, as much as trusts and cartels in the past, does not work against competition, nor it involves any strictly "cooperative behaviour" in the sense of game theory. It is only a (relatively) new *institutional form*, more or less localized in high technology industries, of a non-permanent interaction among firms directed at a *greater*, not lesser, *competitiveness.* In Neo-Schumpeterian perspective, *competition* is neither an individual attitude nor a conduct, which might eventually be changed or reversed through cultural change, but an *objective process* based on a motion power (innovation), aiming at specific ends (private profit), through definite institutional means (markets, law, states), although under historically variable *institutional forms.*

Finally, as to the implications for *competition policy* and *industrial policy*, this proposed interaction between systemic, competitive environmental features and private strategies may also provide useful insights. One should

first recognize that policy effectiveness depends primarily on the ability to *influence business strategies* and therefore firm decisions. This may involve not only traditional specific sectoral policies, which are being more and more abandoned today, but especially general policies of a "horizontal" scope, such as competition and antitrust policies, with a view to *create* a competitive environment, capable of exercising strong enough *competitive pressures* on existing firms, by stimulating a permanent threat of entry of new competitors as well as of a substantial increase of imports (to that purpose reducing protectionist barriers).

The emphasis should be placed on the necessary *construction* of such environment. Only extremist liberals would assume that it comes out by itself, through the spontaneous working of "market forces". It rather requires active policy, by design and *institutional construction*: on one side, by stimulating competition *and* alliances when necessary, instead of forbidding them on static prejudices; on the other side, providing the required public means to create productive, technological capabilities and competitiveness through industrial policy (credit, fiscal incentives and subsidies when necessary). Competitiveness in an industry is not simply an aggregate attribute, but requires *competitive individual* firms, whose capabilities to compete should be developed. In this case, competitive private strategies will become an object and to some extent a product of public strategies concerning competition policy.

One of the main current purposes of antitrust law and agencies is to prevent, more than to punish, anticompetitive conduct, through preventing not only market structures of being so concentrated as to create potential harm to competition, as usual, but also any kind of agreement between companies possessing market power that may pose serious risks of eventual anticompetitive concerted strategies being adopted. Such emphasis, as put here on *strategic behaviour* by firms and its counterpart, *market power*, logically implies, at the regulatory level, a relative shift of focus from traditional *structure and conduct* concerns towards both the analysis and the design of specific consequences of antitrust law interpretation and enforcement procedures on firm *strategies*, in particular on the increasingly important *associative strategies* aimed at strengthening competitive positions within a globalized and more competitive environment.

To achieve a fair preventive result as to potential anticompetitive market structure and firm association, or contracting without impairing legitimate

and potentially pro-competitive business agreements, is one of the big challenges of contemporary antitrust policy, as well as of a consistent industrial policy, aiming at a greater *competitiveness* of firms and industries that would *not* be reached at the expense of an injured *competition*, in its allocative but mainly *selective* role.

6. Antitrust Concerns in Developing Countries: the Case of Brazil

It is common sense that, due to greater competition resulting mainly from globalization and the diffusion of new pervasive technologies, current trends in industrial restructuring, jointly at the industry and firm levels, show the increase of a kind of strategic mix of downsizing and core business focus, on the one hand, with rising concentration through mergers, acquisitions and joint ventures, on the other. In developing countries, from the antitrust viewpoint, besides the traditional problems related to institutional lags and to small production scales, the economies are faced with additional pressures to reconcile multinational enterprise strategies in a globalized world with national structural competition policies and industrial policies towards competitiveness.

There has been some considerable debate over the worth to developing countries of implementing antitrust law and policy (Stevens, 1995:951). On one side of the debate there is, first, some fear that the adoption of US antitrust principles, which elected efficiency as the ultimate goal, could create a negative impact on transition economies that undergo industrial restructuring processes. Second, new antitrust legislation would face serious resistance from the business community, since it could be misinterpreted as a new kind of government control regulation, mainly in countries in which price controls have been present until recently. Furthermore, there are some structural problems to be overcome by these countries in the implementation of a competition policy:

(a) compliance with competition rules might be difficult and costly;

(b) the dominant position of domestic firms might be weakened to such extent that they would not be able anymore to compete either with foreign investors or with overseas companies;

(c) in the absence of a "competition cu lture", competition controls could inhibit entrepreneurial activity.

The other side of the debate stresses the need for a competition policy in any market economy, either developed or not. The aims of competition policies – to stimulate innovation and technological change, to ensure structurally competitive markets, to prevent collusion between firms and to prevent abuse of market power – should be universal, as long as market alone is unable to prevent anticompetitive structure and conduct.

More recently, developing countries have been facing two additional specific problems related to the implementation of antitrust *structural* policies. First, local antitrust authorities are supposed to take an official position and legal actions concerning business concentration acts – mergers and acquisitions – which are not locally bound but reflect global multinational companies' strategies. Even if such operations might imply the increase of the degree of concentration in some national market, and consequently a greater possibility of abuse of dominant position, antitrust authorities in developing countries might be impotent to forbid an operation that has been decided and carried out abroad. Besides, any legal decision that could involve divestiture requirements might deviate important investments from multinational firms: any such developing country could "lose" the opportunity of attracting new foreign investments or new technologies and of increasing exports and employment.

Second, globalization and worldwide competition have exposed national firms to the competition standards of multinational enterprises. In order to become competitive in a globalized economy, national firms in many cases should improve scale – in production, sales, distribution, marketing, R&D etc –, which often can be done easier through mergers, acquisitions or joint ventures. In fact, one major goal of industrial policies in many developing countries is to build up sufficiently large companies to achieve economies of scale as complete as possible, both static and dynamic. The adoption of such kind of growth strategy has to be supported by antitrust law and policy, otherwise a strong national pro-competitive structural policy could impair the competitiveness of local firms (Scherer, 1994:61).

In Brazil, where in earlier decades macroeconomic instability and import protection went along with domestic competition policy characterized by price and exchange rate controls, as well as capacity licensing, government has changed attitude towards market organization in the early 90's, adopting a different approach to foster a competitive environment for private sector

development. This new approach includes trade liberalization, consumer protection, deregulation, privatization, foreign investment regulation, intellectual property protection and reinforcement of competition policy (Rowat, 1995: 3–5).

Before 1990, Brazil had a long history of protection, administrative control regulations and intervention by the public sector, leading State owned companies in major infrastructure sectors, high industry concentration, and price control instruments as a means of controlling competition and inflation, which made antitrust policies useless. Competition policies were used mainly to protect the consumer against arbitrary price rises, rather than as a mean of preventing market distortions and of regulating leading enterprises (Unctad, 1976).

Price stabilization and trade liberalization in the beginning of the 90's in Brazil have aroused a new attitude towards competition policies that resulted in a new antitrust statute: Law nº 8.884, of November 6, 1994. Three articles are basic for the understanding of this antitrust law: 20, 21 and 54. Despite some minor legal and conceptual problems, it should be noted that these articles are sufficiently flexible to accommodate some of the antitrust developing countries' problems above mentioned, as well as some "Schumpeterian insights" discussed in previous sections.

Arts. 20 and 21 of Law nº 8.884/94 deal with procedures related to presumed anticompetitive *conduct*. Art. 20 sets forth the types of conduct which shall be deemed, in accordance with the Brazilian legislation, violations of the economic order:

(a) to limit, restrain or in any way injure free competition or free enterprise;

(b) to dominate a relevant market of a certain product or service;

(c) to increase profits on a discretionary basis;

(d) to abuse of one's dominant position.[11]

In accordance to this antitrust legislation, *no conduct* shall be deemed illegal *per se*. The system adopted in Brazil concerning antitrust violations rests upon the "rule of reason". The judgment of any action pursuant to

[11] *The dominant position referred to in (d) is presumed when a company or group of companies controls 20% of a relevant market, this percentage being subject to alteration by the Administrative Economic Protection Council (Cade) for specific sectors of the economy.*

arts. 20 and 21 of Law nº 8.884/94 requires a careful analysis of the structural characteristics of relevant markets in which such acts occur. Depending on such characteristics, a conduct may or may not be deemed a violation of the economic order. Additionally, the language itself used in the statute indicates that the authorities shall not be focusing their attention primarily on the effects of a conduct on a single competitor, but on the *relevant market structure.*

Art. 54 of Law nº 8.884/94 aims to avoid excessive market concentration that might strongly reinforce market power and induce overpricing and/or hamper static and dynamic economic efficiency gains creation and/or diffusion. Its main section states that any act that may limit or otherwise restrain free competition, or result in the control of relevant markets (20% or more of a relevant market) for specific products or services, must be submitted to Cade, Administrative Economic Protection Council (Brazil's antitrust agency), for approval.

Cade is the agency which effectively decides whether a requirement concerning a concentration act (e.g., a merger) shall or shall not be approved. It is an independent office and its members are either lawyers or economists. The FTC's *Horizontal merger guidelines* acts as an important analytical frame, which means that Cade's procedure consists of *balancing the potential adverse competitive effects of a merger or acquisition transaction against its potential static and dynamic efficiencies.*

Art. 54 also states that Cade may authorize any acts referred to in its main section – acts that limit or restrain competition –, provided they meet the following requisites:

(a) they shall be intended to increase productivity, improve the quality of a product or service, or cause an increased efficiency, as well as foster technological or economic development;

(b) the resulting benefits shall be fairly allocated among participants, on one part, and consumers or end-users, on the other;

(c) they shall not drive competition out of a substantial portion of the relevant market for a product or service;

(d) only the acts strictly required to attain the envisaged objective shall be performed for that purpose.

One should note that, according to Brazilian antitrust law, Cade could, as far as mergers and acquisitions are concerned, approve operations with *performance commitments*. The imposition of performance commitments upon a party presupposes that the transaction has been approved, for they function as a necessary condition for the approval of the transaction. In these cases, Cade's board will define the performance commitments to be assumed by any interested parties that have submitted acts for review pursuant to art. 54, so as to ensure compliance with the above mentioned conditions.

From a Neo-Schumpeterian viewpoint, we may conclude that Brazilian antitrust law contains important elements that could be helpful to promote *selective efficiencies* and to reduce the rigidity of the trade-off between anti-competitive concerns with market power and efficiency gains. In other words, *competition law*, even in a developing country like Brazil, may be flexible enough to allow the development of a *competition policy* that could be used to stimulate competitiveness in the industry without creating major anti-competitive impacts. In particular, it should be stressed that some form of *performance commitment allowance* may be a powerful instrument of legal enforcement of compensatory efficiency gains over merging firms' strategies. Its regular use might induce, through legal and institutional means, innovative concerns into existing forces of competition, driving merging firms towards adopting efficient strategies, despite the eventual presence of high degree of market shares and market concentration.

References

Afonso, M. A catalogue of merger defenses under European and United States antitrust law. *Harvard International Law Journal, 33*(1), Winter 1992.

Areeda, P. Antitrust law as industrial policy: should judges and juries make it? In: Jorde, T. & Teece, D. (eds.). *Antitrust, innovation and competitiveness.* New York, Oxford University Press, 1992.

Baumol, W. & Ordover, J. Antitrust: source of dynamic and static inefficiencies? In: Jorde, T. & Teece, D. (eds.). *Antitrust innovation and competitiveness.* New York, Oxford University Press, 1992.

Dosi, G. *Technical change and industrial transformation.* New York, St. Martin Press, 1984.

_____. Sources, procedures and microeconomic effects of innovation. *Journal of Economic Literature, 26*, 1988.

_____ & Egidi, M. Substantive and procedural rationality. An exploration of economic behavior under uncertainty. *Journal of Evolutionary Economics*, 1991.

Fisher, A.; Johnson, F. & Lande, R. Price effects of horizontal mergers. *California Law Review, 77*(4), 1989.

Geroski, P. Competition policy and the structure-performance paradigm. In: Davies, S. & Lyons, B. (eds.). *Economics of industrial organization. Surveys in economics.* London, Longman, 1988.

Heiner, R. The origins of predictable behavior. *American Economic Review*, 1983.

Jorde, T. & Teece, D. (eds.). *Antitrust, innovation and competitiveness.* New York, Oxford University Press, 1992.

Lyons, B. Barriers to entry. In: Davies, S. & Lyons, B. (eds.). *Economics of industrial organization. Surveys in economics.* London, Longman, 1988.

Metcalfe, S. The economic foundations of technology policy: equilibrium and evolutionary perspectives. In: Stoneman, P. (ed.). *Handbook of the economics of innovation and technological change.* Oxford, B. Blackwell, 1995.

Nelson, R. & Winter, S. *An evolutionary theory of economic change.* Cambridge, Mass., Harvard University Press, 1982.

Rowat, M. Competition policy in Latin America: legal and institutional issues. Conference on Good Government and Law. *Proceedings.* London, 1995.

Scherer, F. M. *Competition policies for an integrated world economy.* Washington, The Brookings Institution, 1994.

_____ & Ross, D. *Industrial market structure and economic performance.* Boston, H. Mifflin, 1990.

Schumpeter, J. A. *Capitalism, socialism and democracy.* London, Allen & Unwin, 1943.

Stevens, D. Framing competition law within an emerging economy: the case of Brazil. *The Antitrust Bulletin, 40*(4), Winter 1995.

Unctad Secretariat. Control of restrictive business practices in Latin America. *The Antitrust Bulletin* (137), 1976.

US Department of Justice & Federal Trade Commission. *Horizontal merger guidelines.* Washington, D.C., 1992.

Vercelli, A. *Methodological foundations of macroeconomics. Keynes and Lucas.* Cambridge, Cambridge University Press, 1991.

Williamson, O. *Economic organization: firms, markets and policy control.* New York, Harvester Wheatsheaf, 1986.