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Competition policy and economic development

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This paper discusses the role of competition policy as an instrument of economic development. Competition policy should here be understood in a broad sense, and viewed as comprising not only antitrust policy but also other policies that have an impact on market structure, business behavior and economic performance; for example, some industrial policies as well as specific fiscal incentives, which both clearly affect firms' behavior, should therefore enter the picture. Also, although we will take the view that the objective of competition policy is indeed to promote competition, it should be stressed that the link between competition and competition policy is not always so clear: Competition may arise with or without competition policy, while having a competition policy does not necessarily ensure competition unless it is an effective one, with appropriate guidelines and enforcement powers. 0

There may be disagreement regarding what constitutes an effective competition policy; for example, should it attack private restraints to competition, and if so, which ones? Or should it first focus on governmental restraints to competition, which in some cases may be the major source of impediments to competition? The last two Sections of this paper address those issues and discuss possible guidelines for horizontal mergers (Section II) and vertical integration and vertical restraints (Section III). However, before discussing such guidelines for competition policy, we need to assess what is the impact of competition on economic growth and development; for that purpose, Section I below first reviews the existing theoretical and empirical literatures and discusses some recent developments.

I. The impact of competition on economic growth and development.

Competition is multidimensional in nature and can have desirable effects not only in the short-run, e.g., by increasing allocative or distributional efficiency, but also in the long-run. The early literature assumed price competition, cost-minimization and profit-maximization, and viewed the market as the transmission mechanism by which resources get re-allocated from lower to higher valued uses, with prices acting as the signaling mechanism. In this context, imperfect competition was mainly viewed as a generator of price distortions that eventually result in welfare losses: the assumptions of cost minimization and profit maximization were maintained but, because of assumed or observed imperfect market structure, this postulated behavior did not lead to producing maximum output at minimum efficient scale and hence raised concerns with resource allocation/distribution and welfare.

Since then, much progress has been done to take into account the inter-temporal nature of competition and the non-price dimensions of competition: the R&D and innovation adoption strategies, the information that is being generated, the role of managerial behavior, etc. It places the emphasis on different questions, such as: Are growth and development fostered today by consuming future generations' resources, as it may be argued to have been the case in the former centrally planned, communist economies, or is through constant productivity upgrading? For example, there is now an important literature, both theoretical and empirical, on R&D races and, more generally, on the impact of competition on innovation. However, this rather extensive literature has generated a substantial ambiguity, and moreover sticks to the assumption of profit-maximization. In contrast, recent works, again both theoretical and empirical, emphasize the positive impact of competition on firms' pricing-output behavior and, consequently, on economic growth and development.

I will first review the existing theoretical and empirical literatures and then present some recent works on the impact of competition on firms' behavior; I will conclude with a few remarks on the situation of developing countries.

1. The existing theoretical literature

Two distinct bodies of literature can be identified: The first one focuses on R&D and innovation and, as mentioned, presumes that firms behave in the same way, namely, as profit-maximizers, irrespective of the level of competition; The second body of literature instead focuses on the impact of competition on firms' behavior, but has not much emphasized yet the implications for innovation and growth.

a) R&D races and the endogenous growth literature

Following Schumpeter (1943), it is often argued that monopoly situations will generate more innovation, for at least two reasons: first, monopolistic firms can more easily fund R&D investments, having more cash flows and facing less market uncertainty; second, they have more incentives to undertake such investments since the prospect of monopolistic rents is more attractive than that of competitive ones. The former argument relies on credit market imperfections, and has not yet received a formal treatment.¹ The latter argument has been reviewed in detail by Guesnerie and Tirole (1985), who stress that it can be balanced by Arrow's well-known replacement effect: whereas a new competitor considers the entire expected profits attached to an innovation, an

¹ In particular, this assumption is slightly at odds with the assumed behavior of the firm (profit-maximization), which assumes away any unresolved conflict between investors

incumbent firm only considers the additional profits attached to the same innovation; and the latter can be much lower than the former if for example the innovation consists in a new product or a new process that replaces one already manufactured or used by the incumbent firm.

A similar ambiguity has been stressed by Willig (1987) who emphasizes the dual impact of a change in competitive pressures on firms' residual demands: having a bigger share of the market, a monopolist benefits more from a cost reduction (demand size effect); however, demand elasticities tend to be higher under competition, which also increases the benefits of the same cost reduction (demand elasticity effect); hence an increase in competition, which decreases individual market shares but raises demand elasticity, may overall have an ambiguous impact.

Building on those contrasted effects, the literature on R&D races, later embodied in endogenous growth models, has yielded ambiguous results as to the impact of competition on innovation and economic developments:² If the prospect of monopoly rents is what drives firms' investment in R&D and thus generates economic growth, product market competition can be detrimental to growth;³ similarly, the risk of imitation discourages innovation and growth, hence the importance of intellectual property rights and patent systems (see Grossman and Helpman (1991)). However, as shown by Aghion, Harris and Vickers (1995), the conclusion depends crucially on fine assumptions on the precise timing of the R&D race game: Whereas most of the literature focuses on

(shareholders) and firms (managers).

² See Aghion and Howitt (1997a) for an overview of this Schumpeterian literature.

³ It should be noted that Schumpeter also argued that competition in the *innovation sector* was likely to be good for innovation and growth. This insight has been validated by recent works in the endogenous growth literature. (See for example Aghion and Howitt (1997b), Chapter 6.)

“leap-frogging” innovations (that is, incumbent technologies are always leap-frogged -- and thus made useless -- by new innovations), these authors show that under a more gradualist (“step-by-step”) technological approach emphasizes the positive impact of competition. The idea is that when at some point of the technological race, two firms end up having the same technology and are thus engaged in a devastating price war, then those firms become eager to get out of this situation and thus invest even more in R&D; in that case, a more competitive framework lead firms to invest more in R&D and thus fosters innovation and growth.

b) Competition and firm behavior

Although the assumption of profit-maximization behavior is appealing, firms may in practice behave in different ways; e.g., the managers may pursue some other, private objectives: perks, empire-building, enjoy a “quiet life”, etc. In this framework, a possibly important role of competition is to act as a “discipline device”, inducing the firm to behave in a better way; for example, conservative firms, looking most of all for a quiet life and thus delaying the introduction of an innovation as much as possible, may have to introduce innovations more quickly when competition is increased. The general idea is that there is usually a separation between the owner(s) of a firm, which would aim at maximizing profits, and the managers that operate the firm, which may pursue distinct incentives. In this context, competition may help aligning owners’ and managers’ objectives in several ways; the corresponding arguments are briefly reviewed below.

i) Benchmarking

One the first merits of competition is to make comparisons possible. For example, the owner

of a firm can compare the performance of its firm with the performance of its competitors, and make the compensation of his manager depend on such comparison. This idea of benchmarking has been formally analyzed by Holmstrom (1982a), Nalebuff and Stiglitz (1983) and Mookherjee (1984), which point out that explicit schemes provide sharper incentives when there are more competitors.

A variant of this idea has been explored by Meyer and Vickers (1995) who, building on Holmstrom's (1982b) career concern model, show that when productivity shocks are more correlated than ability shocks, then an increase in competition leads to an increase in managerial effort. The essence of the analysis is as follows. Assume that future output depends both on endogenous managerial effort and exogenous ability and random shocks. Assume moreover that investors observe realized outputs but not the contributions of each of those factors, and thus have to make indirect inferences about their managers' abilities and effort. Then, if productivity shocks are more correlated than abilities, an increase in the number of competitors enhances the investors' inferences of the managers' abilities; this in turn induces the investors to use "high-powered" contracts that lead managers to provide more effort.

ii) *The competitive pressure of entrepreneurial firms*

Another strand of literature has focused on the impact of competition from “entrepreneurial firms”, as opposed to “managerial firms”. Hart (1983) shows that a higher competitive pressure, in the form of a higher proportion of entrepreneurial firms, has a positive impact on managerial behavior when managers are not very responsive to monetary incentives. The idea is the following. Assuming that both types of firms (managerial and entrepreneurial ones) face common shocks on their costs, when marginal costs are low entrepreneurial firms expand output whereas the other firms’ managers take advantage of this opportunity to slack. But when the proportion of entrepreneurial firms rises, the aggregate output also rises and the price level falls, which reduces the potential for slack and thus contributes to promote effort. Scharfstein (1986) notes that competition may however leads instead to more slack when managers are sufficiently responsive to monetary incentives as opposed to other, non-monetary incentives.

More recently, Hermalin (1992) and Aghion *et al.* (1995) have stressed the sensitivity of the analysis to, respectively, the presence of income effects in managers preferences and, in the context of an economy wide growth model, the effectiveness of financial markets in pushing firms towards profit maximization. Finally, Schmidt (1997) has emphasized another potentially positive impact of competition on managerial effort, through a greater threat of bankruptcy; this effect is discussed below.

iii) The incentives to induce effort

Willig's (1987) insight discussed above has also implications on the owners' or shareholders' incentives to induce high levels of managerial effort: As competition both reduces individual market shares and increases demand elasticities, an increase in competition may have an ambiguous impact on the benefits attached to better management, and thus on the incentives to induce such a higher level of managerial effort. Building on this logic, Martin (1993) shows in a linear demand Cournot model that an increase in the number of competitors tends to reduce managerial effort, while Horn *et al.* (1994) confirms in a similar context that Cournot competition raises firms' inefficiencies but also shows that, in contrast, Bertrand competition reduces these inefficiencies.⁴

iv) Financial pressures

An important impact of competition is to introduce or to reinforce the possibility of bankruptcy. As the threat of bankruptcy is precisely one of the instruments that may be used to induce a good management, an increase of competition is likely to promote incentives and managerial effort.

This has recently been explored by Schmidt (1997), which analyzed in detail how an increase in competition affects managers' incentives, taking into account both the negative impact of competition on expected profits and the positive impact on incentives through the threat of

⁴ There is also some literature on the impact of competition on workers' efforts. One line of reasoning follows from rent-sharing, which can occur either to avoid "conflicts" with workers (see, e.g., Smirlock and Marshall (1983)) or to keep labor unions out (Dickens and Katz (1987)), or simply from bargaining with these unions (Stewart (1990)). As rents can take the form of either higher wages or reduced effort, an increase in competition, which reduces those rents, has a direct positive impact on effort; Nickell (1996) provides a simple model illustrating this point.

bankruptcy. The latter effect not only provides the managers with direct incentives to spend more effort, in order to avoid bankruptcy and thus keep their jobs (and the quasi-rents that may be attached to those jobs), but it moreover makes it cheaper for the owners of the firms to induce higher levels of managerial efforts. Hence, through this threat-of-liquidation effect, an increase in competition unambiguously leads to an increase in managerial efforts. However, the former effect may reduce the benefits of inducing higher levels of effort and, as a result, the overall impact of competition on incentives and on the level of managerial effort may be ambiguous.

Another channel through which competition may affect managers' behavior is by reducing the available free-cash flows of the firms. Following Jensen (1986), this may reduce the scope for "investments" which are not very profitable but yield important private benefits for the managers.

2. The existing empirical literature

A first type of evidence of the impact of competition (or of its absence) can for example be found in the very low levels of productivity of Eastern European countries, in the evolution of the Indian automobile industry, which still produces almost the same cars as in the late fifties, or in Porter (1990)'s observation that it is precisely in those sectors where domestic competition was strong (e.g., cars, bikes, cameras and video-recorders in Japan) that countries have produced the most worldwide successful companies. Besides this first type of evidence, three distinct empirical literatures can be identified, relative to the impact of competition first on R&D and innovation, and second on firms' productivity.⁵

⁵ There exist another literature relative to the static welfare gains of competition, which often appear to be rather small. A survey of this literature can be found in Vickers (1995).

a) Competition and R&D

There is a substantial literature on the impact of competition on R&D efforts. The main problem there is to distinguish this impact from the contributions of other factors, such as the existence of different levels of appropriability of the benefits from R&D investments. For example, in the framework of Dasgupta and Stiglitz (1980), the technological opportunities (i.e., the impact of R&D on cost reduction) are correlated across industries with both the level of R&D and market concentration.⁶ A possible solution to this problem consists in panel data studies. Geroski (1990) uses for example panel data to control for differences in technological opportunities by introducing industry fixed effects; after such control, the evidence suggests that concentration and other measures of monopoly power tend to reduce the rate of innovation.

The existence of scale economies in certain industries creates another difficulty. For example, many empirical studies, such as Scherer (1967), have shown that large firms tend to have higher rates of R&D and innovate more, which may suggest that the static inefficiencies associated with monopoly may be compensated by gains in dynamic efficiency. However, Blundell *et al.* (1993) show that, while firms with higher market share tend indeed to innovate more, firms in competitive industries tend to have a higher probability of innovation. In particular, as large market shares generate an increase in the level of industry concentration, they may lead overall to a reduction in the

⁶ Some empirical studies try to account for such discrepancies by questioning business people about the conditions that prevail in their particular industry (for example, Levin *et al.* (1987) mentions that the “Yale Studies” ask senior R&D managers about the appropriability conditions in their lines of business). However, the subjectiveness and representativeness of this approach is still

aggregate level of R&D investments.

Another source of difficulty lies in feed-back effects between monopoly power and innovation, since a successful innovation is likely to lead to larger market shares. Blundell *et al.* (1995) address this problem by using an explicit dynamic count data model. More specifically, they model a count of the number of innovations commercialized by a firm in a year as a function of the firm's monopoly power and of its tangible and knowledge capital stock; their panel data allow them to account for industry fixed effects, and they moreover take into account the feedback mechanism by using pre-sample information reflecting the firm's knowledge stock at the point of entry in the sample. Their results first show that concentration has a negative impact on the probability of innovation. Also, controlling for firm specific effects reduces the impact of market share by half although it remains significant and positive. However, there are offsetting effects at the industry level, due to the first effect mentioned, and their overall conclusion is that more competitive industries (i.e., less concentrated ones) tend to generate a higher number of innovations.

b) Productivity

Several cross-section studies have analyzed the impact of market structure on firms' technological efficiency (see for example Caves and Barton (1990), Green and Mayes (1991) or Caves and Associates (1992)). By using frontier production techniques, the authors can estimate technical efficiency indices, which are shown to decrease when market concentration increases.⁷

uncertain.

⁷ This is also in line with the management literature (such as for example discussed in Caves (1980)), according to which competition leads companies to adopt more efficient decision making processes.

Similar effects have been emphasized using panel data, either on industries (Haskel (1990)) or on firms (Nickell *et al* (1992)): In both cases, fixed effects show that market concentration, in the first case, or market share, in the second case, tends to decrease the level of productivity. Nickell *et al.* (1992) do however show that high a market share is correlated with higher productivity growth (which could suggest that the impacts of competition on productivity levels and on productivity growth could be of opposite signs), but their model, contrary to the above mentioned work of Blundell *et al.*(1995) for R&D, does not account for feedback effects (in the long run, relatively high productivity growth firms will tend gain market share). Besides, Venables and van Vijnbergen (1993) find that the Mexican trade liberalization or 1986-1988 led directly to both an increase in competition and in productivity growth.⁸

It should be stressed that the empirical literature has focused on whether competition, measured in different ways, improves either productivity or innovation. In that respect, it does not explicitly test the different theories that have presented above, but only their general conclusions relative to the correlation between competition and productivity or innovation. A negative such correlation would go against the predictions of, say, benchmarking or career concern models, or would help clarifying the debate relative to the conclusions of Hart (1983) and Scharfstein (1986); but a positive correlation, which supports the general conclusions of both the benchmarking models and of the career concern models, does not as such allow to distinguish the respective merits of the two ideas. More refined tests would be needed for that, implying that much work remains to be done before confidently using the current results, obtained for developed economies, to highlight the

⁸ See also Harrison (1994), Khrisna and Mitra (1994) and MacDonald (1994).

situation of less developed countries.

3. A new perspective on competition, innovation and economic development

The works mentioned in the first section above emphasize the impact of competition on firms' behavior. This opens new perspectives regarding the role of competition on R&D investments, innovation adoption strategies, etc., particularly when agency problems within firms are important (so that profit-maximization need not be the most appropriate assumption). In particular, these works suggest that the Schumpeterian literature, which starts from the assumption that firms are profit-maximizers and generates ambiguous results relative to the impact of competition on innovation, may overlook one of the main merits of competition: competition may actually induce firms to adopt a behavior that is *closer* to profit-maximization and, for that reason, to innovate more. This view is reflected in the Darwinian approach forcefully advocated by Porter (1990) in the industrial policy debate: Whereas the Schumpeterian view would lead to favor the creation (and the protection) of domestic champions, the Darwinian view instead recommends to promote domestic competition in order to force firms to innovate in order to survive.⁹ We briefly describe below recent advances, both on theoretical and empirical grounds, that all suggest that an increase in competition is likely to have a very positive impact on growth and economic development.

⁹ Porter (1990) argues very strongly that competition is a crucial factor inducing firms to innovate and to become more efficient; cf. p. 117: "Among the strongest empirical findings in our research is the association between vigorous rivalry and the creation and persistence of competitive advantage in an industry." Baily and Gersbach (1995) also conclude that "the existence of a positive causal relation between global competition and productivity" (p. 346, quoted in Nickell *et al.* (1996)).

a) Theoretical insights

This idea has been first formally explored by Aghion *et al* (1995) which, in the context of a now standard endogenous growth model, compares the impact of competition on firms' innovation behavior under two alternative behavioral assumptions: profit-maximization and "conservative" behavior. The framework of the model (which is more about the adoption of innovation than about R&D itself) is so designed that, under the first and standard profit-maximization assumption, the Schumpeterian effect dominates: An increase in competition reduces the benefits from adopting in innovation and, as such, reduces firms' incentives to innovate (that is, to adopt innovation); as a result, it adversely affects economic development: the endogenous growth rate decreases when competition increases. The alternative behavioral assumption that is explored is that firms maximize short-term profits but delay the introduction of new technologies as much as possible; this behavior can be rationalized by introducing private costs associated with the introduction of an innovation. As a result, in equilibrium firms adopt innovations "at the last minute", that is, just before their technologies become so obsolete that they would go bankrupt in the absence of innovation. An increase in competition then implies that this "last minute" arrives sooner; hence, as competition increases, firms are forced to innovate at a more rapid rate, and economic development is also higher.¹⁰

This first paper already shows that the impact of competition on economic development

¹⁰ Aghion *et al.* also analyzes the extent to which financial markets can discipline managerial firms. They show that if financial markets cannot completely solve the agency problem relative to the rate of adoption of innovations, then competition still plays a role as a discipline device and generates more innovation and growth.

critically depends on the behavior of the firms (profit-maximization or conservative behavior), but considers this behavior as exogenously given. Aghion *et al.* (1997) endogenizes the behavior by explicitly modeling the agency problem between the firm and outside investors (or between the manager and the owner) and shows that, depending on the magnitude of this agency problem, firms may behave in ways that are close to profit-maximization (for small agency problems) or, to the contrary, adopt a much more conservative behavior (for large agency problems). Hence, depending on the importance of agency problems (or on the availability of good solutions to such problems), the same increase in competition has drastically different impact of R&D and economic development. The agency problem is modeled as follows. A firm (or its managers) can undertake non-contractible but cost-effective R&D investments, and also contract on contractible but possibly less efficient investments, or on organizational structures, etc., that affect the firm's incentives to undertake the efficient R&D investments;¹¹ the magnitude of the agency problem is measured by the need of outside funding.

In this set-up, when the need for outside funds is small, firms need to leave only a small share of the profits to outside investors, and thus act almost as profit-maximizers. The standard Schumpeterian effect then drives the analysis; in particular, R&D investments are strategic substitute: If one firm invests more in R&D, the other firms' expected benefits from their own investments are reduced, and these firms thus reduce their R&D activity. Similarly, if the number of competitors increase, each firm invests less in R&D, so that the aggregate R&D effort may also

¹¹ These alternative contractible variables may e.g. include tangible R&D investments (the number of researchers, investments in physical capital, etc.), as opposed to intangible ones, but also provisions in the corporate governance chart, including the creditors' and shareholders' control rights, as well as the amount of vertical integration and/or of separation between ownership and

decrease.

However, as the agency problem increases, firms have to leave a larger share of the revenue to outside investors and their incentives to undertake efficient R&D investments decrease; as a result, when the agency problem becomes large, firms may have difficulties attracting outside investors (or managers may have difficulties convincing their owners to maintain their jobs). When this problem becomes too severe, firms then have to find alternative ways to commit themselves to undertake substantial R&D efforts by adjusting the contractible variables accordingly: Firms may for example overinvest in tangible R&D investments, even if those are not the most efficient ones; alternatively, they may adopt organizational forms that induce higher levels of non-contractible R&D investments.¹² In such situations, if market demand shrinks or if rivals become more aggressive, so that the firm's residual demand falls and the profitability of the firm is reduced, then to keep attracting outside investors the firm will have to overinvest even more on tangible R&D investments and, more generally, to play even more with the other contractible variables mentioned above. At this point, R&D decisions become strategic substitutes: if rivals invest more in R&D, the firm will have to react by investing more in R&D. Similarly, an increase in the number of competitors would lead *each firm* to increase its R&D effort, so that competition would thus have a strong impact on aggregate R&D activity.

This analysis suggests that competition may have a particularly favorable impact on R&D,

management, etc.

¹² The multi-task model of Holmstrom and Milgrom (1991) provides an illustration of the same idea. For example, firms may forbid their workers from investing in some activities, e.g., by imposing restrictions on research strategies, to ensure that the workers spend enough time on other tasks. Alternatively, the firm can adopt internal incentive schemes that are more high-powered, which ensure higher levels of effort but leave more rents to the workers.

productivity and growth when, as it is likely to be the case in developing economies, firms face important agency costs.¹³

b) New empirical evidence

These insights have generated new empirical studies of the correlation between competition and growth, controlling for the magnitude of agency problems, which seem to confirm that competition plays an important and positive role as a discipline device when agency problems are important. In particular, Nickell *et al.* (1996) have introduced additional financial variables in Nickell's (1996) study of U.K. companies: they first consider financial pressure, measured by interest payments per cash flow, and second the degree of shareholder control, according to whether there is a dominant shareholder (with more than a 90 or 95% probability of winning a shareholders' vote); when there exists a dominant shareholder, they also distinguish whether this shareholder is internal or external and, in the latter case, whether s/he is a financial institution or not.

Their first finding is that both competition and financial pressure have a positive impact on productivity growth (for example, *ceteris paribus*, total factor productivity growth is 3.7 % higher if the firm has more than five competitors), but that there is some substitution between the two. For example, when competition is low (a ratio rents/value-added of 25 %), a rise of 1 standard deviation in interest payments, from 10 to 30 % of cash flow, induces a rise in annual total factor productivity growth of around 1.7 %; but when competition is about 1 standard deviation higher (with a ratio

¹³ The framework of Aghion *et al.* (1997) could also be used to analyze the impact of monitoring costs on firms' organizational forms. It could for example be used to explore the idea that high monitoring costs explain why there is much less separation of ownership and management in LDCs than in developed countries, and the impact of competition in such situation.

rents/value-added of 5 %), the same change in interest payments induces a rise of productivity growth of only 0.8 %.

They also show that shareholder control has a positive impact on productivity, but only when the dominant shareholder is *external* and is a financial institution: when dominant shareholders are internal (the most relevant case in developing countries), they have *no effect* on productivity; if they are external but not a financial institution, they may even have a negative impact on productivity. The authors also show that there is an important substitution between competition and *external* shareholder control: an increase in competition that reduces the rents from 15 % to 5 % of value added induces an increase in productivity growth of 1 % per annum in firms with no dominant external shareholder, but may well reduce productivity growth in firms with a dominant external shareholder from the financial sector. Again, extending these results from U.K. to developing countries, which is clearly hazardous, would nevertheless suggest, since dominant shareholders are there mostly internal, that shareholder control may not be very effective and that competitive pressures would remain the most effective discipline device for firms, in order to foster productivity growth.

4. The case of developing economies

Whereas the theoretical literature reviewed above in the first section provides contradicting insights, most of the empirical studies and all of the “broad brush” comparisons (formerly centralized economies, etc.) point to a positive impact of competition on firms’ productivity and economic development. The recent works just described, which emphasize the role of competition as a discipline device that affects firms’ behavior, provides a line of explanation which not only reconcile

theory and evidence, but may also be of particular relevance for developing economies.¹⁴

In developing countries many institutions (financial institutions, corporate law, competition law) are often weak, and information asymmetries (in credit or product markets) and contract enforcement problems are usually important. Hence internal agency problems are likely to be large and profit-maximization may not be the most appropriate assumption to model “the firm”: It should instead be replaced with a behavioral assumption that accounts for those agency problems. In such a situation, competition has many more merits: It acts as a discipline device, creating incentives which ensure that resources are more productively deployed, costs are reduced and profits are increased: The main impact of competition may not correspond to what detailed analyses of the strategic interaction between profit-maximizing firms predict, but rather to the observation that it will induce firms to behave more closely to profit-maximization; other objectives that affect the firm’s agency problem and thus eventually reflect in its behavior may be given less weight when competitive pressures are increased.

¹⁴ Competition may also generate redistribution effects, that will also affect growth and economic development. For example, the inequality-growth literature, nicely summarized by Benabou (1996), points to a substantial impact of inequality on growth. Also, the efficiency wage theory shows that worker bonding may reduce the efficiency losses from costly monitoring (see Shapiro-Stiglitz (1984) and Rey-Stiglitz (1996) for a recent extension), and such bonds are less widely available when inequality is high. Lastly, it might be interesting to also explore the impact of firms’ distribution of financial constraints on total investment and growth.

How competition can be introduced or reinforced in developing economies? Competition can first be injected by forcing or requiring firms to participate in competitive markets. This may mean integrating them into markets which are dynamic and growing and where no one government can control or condition the business environment. Participation in international-export markets may thus constitute a good transmission mechanism for injecting competition in domestic markets and fostering the changes in firm behavior that were discussed above.¹⁵

Alternatively, competition can be promoted by introducing or reinforcing competition policy and its implementation. The next sections will discuss some of the issues involved in the design of competition policy guidelines, and whether the situation of developing countries calls for specific recommendations. However, the above analysis has implications not only for the design of competition policy, but also for related measures that may reinforce its disciplinary role. For instance, both Schmidt (1997) and Aghion *et al.* (1997) emphasize the importance of financial sanctions: Competition plays a better role as a discipline device when the risk of bankruptcy is at stake, as in Schmidt, or when firms have to rely on external funding to finance their investments, as in Aghion *et al.*¹⁶ Hence it might be desirable to adjust bankruptcy laws and/or their implementation

¹⁵ Note that while the theoretical and empirical literature reviewed above is sometimes ambiguous on the relationship between competition and economic growth and development, the literature on export performance and economic growth and development is much clearer, and so is the relationship on the intensity of competition in export markets. Note also that the argument just described for competition and “tougher rules” for the firms fits casually with the observation that, when using the OECD technology classification to manufactured exports across countries, the most successfully developing countries do not appear to be the most resource rich/based economies but rather those that have a high proportion of exports where high tech-economies of scale are important, and/or those with low cost labor.

¹⁶ This latter situation may be viewed as an “ex ante” bankruptcy constraint, since the

when introducing or reinforcing competition policy.

II. Horizontal issues in competition policy for developing countries

We now turn to different questions: Should the specificities of developing countries affect competition policy guidelines and, if yes, how ? Our starting point is there are important barriers to entry in developing countries; among these, information asymmetries (in credit or product markets) and contract enforcement problems are likely to be especially pronounced ones, which indeed should be accounted for in competition policy guidelines. In this section we discuss horizontal issues and focus on the implications of entry barriers on collusion and merger policy, and of credit market imperfections on predation and horizontal agreements.

1. The implications of entry barriers and market concentration on collusion and merger policy

Among factors that facilitate collusion two of them, namely, entry barriers and market concentration, are likely to be important in developing countries: It is easier to collude when there is a limited number of competitors, and when supra-competitive prices do not necessarily trigger the entry of new competitors. This suggests that, when addressing horizontal issues such as mergers, competition authorities should thus put more weight on the possibility of collusion, taking into account a “dynamic” perspective where firms' strategic interaction has to be analyzed in a long-run

firm may be unable to enter the market or to undertake a new project if it does not “behave” well .

framework. This should be contrasted with the fact that existing western guidelines are often inspired by more “static” oligopoly analyses.

An illustration of this can be found by the reliance on concentration tests such as the Herfindahl test. This test has been inspired by Cournot market analyses that are typically static (see Farrell and Shapiro (1990) for a recent discussion and extension, balancing the adverse effect of market concentration with the efficiency gains that may result from mergers). Of course, both static and dynamic analyses agree that market concentration is not desirable, in the short-run because it reduces the competitive pressures, by decreasing the price-elasticity of the residual demands, and in the long-run because it may facilitate collusion.¹⁷ However, for a given number of competitors, static and dynamic perspectives yield different insights regarding the impact of the distribution of firms’ market shares and characteristics. For example, Bernheim and Whinston (1990) show that firms with asymmetric market shares find it more difficult to collude;¹⁸ whereas the Herfindahl concentration index suggests instead that a symmetric situation is more favorable to competition, since this index is lower when firms have identical market shares.¹⁹ Hence a static perspective would

¹⁷ For example, if there are n identical competitors producing a homogenous good and compete in a Cournot fashion, then the perceived price elasticity is ε/n , where ε denotes the price-elasticity of the final demand. Similarly, in an infinitely repeated Bertrand framework those firms can sustain tacit collusion if their discount factor is above a threshold equal to $1-1/n$, which increases with n . Hence, in both cases an increase in market concentration (i.e., a reduction in the number of competitors) helps firms reduce competitive pressures and maintain higher prices.

¹⁸ For example, if there are two firms with respective market shares α and $1-\alpha$, the discount factor threshold, above which they can sustain collusion, becomes $\min\{\alpha, 1-\alpha\}$, and thus is minimal when firms have the same market share, $\alpha=1-\alpha=1/2$.

¹⁹ For n firms with respective market shares $(\alpha_i)_{i=1,\dots,n}$, the Herfindahl index, $\sum_{i=1}^{i=n} \alpha_i^2$, is minimal when firms are symmetric, i.e., when $\alpha_1 = \dots = \alpha_n = 1/n$.

favor symmetry, while a dynamic perspective would pay more attention to the fact that symmetry increases the risk of collusion.

Another important factor for collusion is the existence of capacity constraints or, more generally, how difficult it is for firms to expand. This factor is again likely to be particularly relevant in developing economies, where there often exists institutional entry barriers and where weak credit markets increase investment costs, thereby limiting large firms' expansion possibilities and reducing the competitive constraint from smaller firms.

Capacity constraints affect the possibility of collusion in two ways: On the one hand, they limit firms' incentives to deviate from a collusive equilibrium and undercut their competitors, since they may not be able to satisfy the resulting increase in demand; On the other hand, they also limit firms' retaliation possibilities after such a deviation. Thus, potentially, capacity constraints have an ambiguous impact on the sustainability of collusion. However, when firms are not too asymmetric (i.e., when they face similar capacity constraints), the limitation on firms' incentives to deviate has been shown to be the dominant effect, so that overall capacity constraints facilitate collusion (see for example Lambson (1987)). Recently, more work has been done, considering asymmetric situations as well. Compte, Jenny and Rey (1997) stress that, in asymmetric configurations, the main constraint on collusion is the difficulty, for the smaller firms, to prevent the largest firm from deviating. This has several implications. First, keeping the total capacity and the number of competitors constant, a symmetric distribution of the capacities facilitates collusion: This introduces a further divergence between the implications of the Herfindahl index or of "static" analyses,²⁰ and the analyses taking the

²⁰ In the framework analyzed by Compte, Jenny and Rey (1997), the "static" price equilibrium indeed generates higher prices (and thus higher profits but lower consumer surplus)

risk of collusion into account.

This divergence can be illustrated a famous European case, the 1992 Nestlé-Perrier merger. Before the merger, Nestlé, Perrier and BSN had respectively 17%, 36% and 23% of the French market for bottled water, the remaining share of the market being left to a very fragmented competitive fringe. Nestlé offered to take over Perrier and to resell part of it to BSN, which would have given 38% of the market to each of two resulting dominant firms. According to the Herfindahl index, this merger was a threat to competition, but less so than in the absence of the partial reselling to BSN, since in that case Nestlé would have had a dominant position (this was officially the reason why Nestlé was offering to resell part of Perrier). According to the logic of collusion, the pre-merger situation was again more competitive (i.e., less favorable to collusion) than the post-merger one with reselling, but the merger without reselling would actually have created an even more competitive situation: In the absence of this reselling, Nestlé-Perrier would have had a huge extra capacity whereas BSN would not have had much spare capacity, and thus Nestlé-Perrier would have had large incentives to cut prices; and the spring offered by Nestlé to BSN had an important spare capacity, so that after this reselling both firms would have had substantial retaliation possibilities, which would have facilitated collusion.

when the total capacity is asymmetrically distributed. Hence such a static analysis is in line with the implications of the Herfindahl index.

Note that the Herfindahl index refers to the distribution of market shares rather than of capacities. However, in the framework analyzed by Compte, Jenny and Rey (1997), the market shares that most facilitate collusion are those that are proportional to capacities. Hence, this model predicts again that a larger asymmetry in the distribution of market shares, reflecting a more asymmetric distribution of capacities, is more favorable to collusion, whereas the Herfindahl index would instead favor the most symmetric market shares.

2. The implications of credit market imperfections on predation and horizontal agreements

Predation arguments have long been criticized as relying on improbable assumptions. However, building on the so-called “long-purse” story, firm foundations have recently been provided and shown that predatory strategies may present a real threat to competition when credit markets do not perform well. Those predation arguments may thus be particularly relevant in developing economies.

The long-purse story, first modeled by Telser (1966),²¹ asserts that a firm can benefit from a temporary price war if this price war drives competitors out of the market. This argument has been criticized, as the target firm should be able to convince creditors to help the firm through temporarily difficult times, thereby eliminating the risk of predation. However, since the late 70s and the 80s, many contributions have emphasized that credit markets do not always perform well because of substantial informational asymmetries.²² As a result, the marginal cost of credit usually increases with the amount borrowed and/or decreases with the borrower’s initial wealth, which in turn can give rise to predatory strategies: by triggering a price war, a wealthy firm can decrease its rivals’ cash and therefore increase their credit costs without affecting too much its own opportunity cost of investments; by so doing, the predating firm limits its rivals’ investment opportunities and can secure

²¹ Edwards (1955), pages 334-335, describes the argument informally and concludes: *the length of its purse assures it of a victory.*

²² See for example Stiglitz and Weiss (1981), Townsend (1979), Diamond (1984) and Gale and Hellwig (1985).

itself a more dominant position in the future.²³

The fact that information asymmetries and contract enforcement problems are likely to be especially pronounced in developing countries, thus suggests that predation arguments should be given more attention than in developed countries. It also suggests that some potential remedies to credit market imperfections might have to benefit from a more tolerant attitude, even if they might appear anti-competitive in some aspects. For example, the “peer monitoring” literature²⁴ stresses the advantage of “tying” several financial projects. Consider the following example. An entrepreneur has an initial wealth A and needs to invest $I > A$ (and thus to borrow $I - A$) in a project which yields R with some probability, and nothing otherwise. The probability of success equals P if the entrepreneur “behaves well” and only $p < P$ if he “shirks”, which however yields him private benefits B . We will moreover assume that $P.R > I > p.r$, so that the project is viable only if the entrepreneur behaves well. In order to borrow, the entrepreneur must promise to behave well and to leave the outside creditor a share r satisfying $P.r \geq I - A$. In order to be induced to “behave”, the entrepreneur must retain a sufficient share of the project (namely, he will behave if the share he keeps, $R - r$, satisfies: $(P - p)(R - r) \geq B$). Adding those two conditions shows that the entrepreneur will be able to finance his project only he has sufficient wealth, namely, if $A \geq A_I = P.B / (P - p) - (P.R - I)$,

²³ See for example Fudenberg and Tirole (1985, 1986) for first illustrations of such strategies. Although in those models potential targets could resist predation by contracting ex ante on lines of credit, Snyder (1993) has extended the argument to more realistic frameworks and shown that, although ex ante contracting (for the targets) may limit the effectiveness of predatory strategies, it may not suffice to rule them out.

²⁴ This idea has already been discussed some time ago, but it is only recently that is been explored into more detail (see Stiglitz (1990) and Besley and Coate (1991) for first analyzes) and implemented more often in practice (the best known example being provided by the Grameen Bank in India; a more recent experience is taking place in Mexico).

where the last term represents the minimal interest that the entrepreneur must keep in the project to be induced to run it well. Similarly, two identical entrepreneurs with independent projects would have to possess at least $2A_1$ in order to attract investors. However, by tying their two projects with a contract where, e.g., they keep a share of the return, $R-r$, only if *both* projects are successful, and provided they can monitor each other, then they would be induced to behave well as long as $(P^2 - p^2)(R-r) \geq B$, while the investors would accept to finance their projects as long as $P(1-P)R + P^2r \geq I - A$. Hence the entrepreneurs would only need $2A_2$, where $A_2 = A_1 = P^2 \cdot B / (P^2 - p^2) - (P \cdot R - I) < A_1$.²⁵

As this example suggests, horizontal agreements, tying several investment projects together, may help reduce the impact of credit market imperfections.²⁶ Such horizontal agreements may have anti-competitive aspects; for example, to be successful they require a mutual monitoring, and thus suppose a certain amount of cooperation between firms that could be potential competitors (this mutual monitoring is actually likely to be easier to achieve when firms are involved in the same markets). Still, they may have efficiency effects due to credit market imperfections (in particular, they may constitute a protection against predatory strategies), which calls for a more tolerant attitude.

4. Guidelines for developing economies

²⁵ It may even be the case that $2A_2 < A_1$, that is, that a same entrepreneur could finance two projects but not a single one. For example, if $P^2 \cdot B / (P^2 - p^2) < P \cdot R - I < P \cdot B / (P - p)$, then an entrepreneur does not need any initial wealth to finance two projects ($2A_2 < 0$) even though he may not be able to finance a single project (since $A_1 > 0$).

²⁶ Although this argument has often been put forward for agricultural projects in rural areas, it applies as well to small and medium-sized industrial firms. Variants and extensions of the above example show for instance that firms may benefit from sharing investment project portfolios

To briefly sum-up, the above discussion suggests that the specificities of developing countries may require to adjust some aspects of the competition policy guidelines used in more developed countries. First, the presence of higher entry barriers and credit market imperfections call for putting a greater emphasis on the possibility of collusion and on predation arguments, in particular when assessing horizontal mergers: markets whose concentration indexes might be thought as corresponding to “competitive markets” in developed economies may be less so when firms routinely engage in collusion or when competition is “organized” by various forms of government intervention; also, putting more emphasis on collusion possibilities should affect the weight given to some factors such as capacity constraints and should also affect the ways some other factors, such as symmetry, are taken into consideration. Second, credit market problems and other market imperfections can lead the firms to use alternative arrangements, including horizontal agreements and joint ventures, to at least partially circumvent those problems. Hence there are efficiency reasons that may advocate for a more lenient attitude towards horizontal agreements, particularly when they involve firms that might otherwise find it difficult to enter a market or develop new projects. Lastly, it should be pointed out that, although the above discussion does present a few hints about how to balance some of the pros and cons towards horizontal mergers and agreements (e.g., depending on whether these arrangements involve new entrants or well-established incumbents, firms with large cash-flows or cash-constrained firms, firms with lots of extra-capacity or not, etc.), much work remains to be done.

III. Vertical issues

(in particular, the “initial wealth” A can be understood as including such projects portfolios).

This section addresses vertical issues. It first reviews the implications of recent work on vertical integration and foreclosure, and then discusses policy guidelines for vertical restraints.

1. Vertical integration and foreclosure

Since the first discussion in *Terminal Railroad Association v. U.S.* (1912), the foreclosure argument and the essential facility doctrine have been the subject of lively debates. After having long been criticized for lack of strong micro-foundations, in the recent years several works which have contributed to give them firmer foundations and provided a coherent framework for the analysis of the pros and cons of vertical integration and other related practices (exclusive agreements, tie-ins, non-discrimination laws, etc.) when foreclosure is a possibility.²⁷

Assume for example that an upstream monopolist produces an essential input for downstream use, and that the downstream segment is potentially competitive, provided that competitors have proper access to the monopolist's input. The foreclosure doctrine states that, in such situation, the bottleneck owner has an incentive to restrict or deny access to some or most of its potential buyers, and thus favor a downstream independent firm or a downstream affiliate, in order to extend the bottleneck's monopoly power to the downstream segment. The Chicago School critique of this argument is that there is only one final product market and therefore only one monopoly power to be exploited, and that it is not obvious how the upstream monopolist could further extend its monopoly

²⁷ See Rey and Tirole (1996) for a survey of this recent literature.

power.²⁸ The reconciliation of the foreclosure doctrine and the Chicago School that has recently been offered is based on the observation that the upstream monopolist in general cannot fully exert its monopoly power without engaging in exclusionary practices; for example, downstream users will not be willing to pay much for the input if they expect an intense competition in their segment.²⁹ This gives the upstream monopolist incentives to engage in market foreclosure.³⁰ For example, *exclusive dealing* reduces or eliminates downstream competition and, by the same token, restores the upstream monopolist's ability to sustain monopoly prices; alternatively, *vertical integration* with one of the downstream firms credibly commits the upstream monopolist to reduce its supplies to competing downstream firms, as it will then internalize the profit of its downstream affiliate. There are still other ways of preserving the monopoly profit: for example, a market-wide resale price maintenance (RPM) in the form of a price floor would again eliminate downstream competition; alternatively, two-part tariffs involving a large fixed payment would *de facto* monopolize the

²⁸ For the Chicago School, the whole concept thus resulted from a confusion about the exercise of monopoly power (see Bork (1978) and Posner (1976)). In the absence of efficiency gains, vertical integration could not increase the profitability of the merging firms; similarly, there was no rationale for excluding downstream customers who could be the source of extra monopoly profits.

²⁹ This idea has previously been applied to patents and franchising. A patent holder is unlikely to make much money if it cannot commit not to flood the market with licenses, since intense downstream competition would then destroy the profit created by the upstream monopoly position. Similarly, franchisees are unlikely to pay much to franchisors if they do not have the guarantee that competitors will not set shop at their doorsteps.

³⁰ There is a strong analogy with Coase's durable good analysis. A durable-good monopolist may find it difficult to obtain the monopoly profit because it "creates its own competition": By selling more of the durable good at some date, it depreciates the value of units sold at earlier dates; the prospect of further sales in turn makes early buyers wary of expropriation and makes them reluctant to purchase. The analogy with the durable goods model also extends to the means of restoring monopoly power: vertical integration, exclusive dealing, retail price floor, reputation of the monopolist not to expropriate, and so forth.

downstream segment, whereas royalties and other profit-sharing contracts would also help discipline the entire industry.³¹

2. Vertical restraints

Even if foreclosure is not an issue, vertical restraints such as exclusive territories, resale price maintenance, etc. can have various positive and negative effects on competition and economic efficiency. Those effects can be grouped as follows (for the sake of presentation, I will speak of “producers” and “distributors” when referring to upstream and downstream firms; however, most of the analysis applies to other vertical relationships as well):³²

i) Intra-brand coordination

Producers and distributors can first use vertical restraints to achieve a better vertical coordination on the many decisions (wholesale and retail prices, franchise fees, quantity purchased by the distributors, quantity eventually sold to customers, selling efforts, distributors' locations, etc.) that affect their profits. When used for that purpose, vertical restraints increase firms' profits and contribute to make the vertical structure a more effective competitor, but need not increase consumer surplus nor total welfare. For example, enhancing coordination may allow the firms to offer better goods or retail services, but the level of quality that is best for the firms may not be the one that is

³¹ Interestingly, non discrimination laws would also help discipline the industry and maintain monopoly profits.

³² For an extensive review of the economic literature, see the OECD (1994) Report on Franchising or Caballero-Sanz and Rey (1996).

best for consumers: the reason is that the firms will primarily target “marginal consumers”, that are almost indifferent between buying or not, and that those consumers may for example value more than the average the quality provided; in that case, although a better coordination will likely result in an increase in quality (and, accordingly, in prices), consumers might well prefer a situation with lower prices and quality. This divergence between the firms' and the consumers' interests, first emphasized by Spence (1975), is more likely to be important when firms have substantial market power.

ii. Interbrand competition

Vertical restraints can have two types of effects on interbrand competition: they may alter competition between existing firms and also have an impact on the evolution of market structure.

Regarding the first aspect, vertical restraints can first help maintaining horizontal cartels. For example, when horizontal cartels are illegal downstream firms may use “sham vertical agreements” to circumvent the law. Although this clear misuse of vertical restraints is likely to be banned in most developed countries, occasional examples still occur³³ and the risk of such use may be potentially high in developing countries. But vertical restraints can help sustaining an upstream cartel as well. For example, resale price maintenance can facilitate tacit collusion by making price cuts easier to

³³ The Swiss bookstore cartel provided a recent example. In Switzerland, cartels are not illegal but controlled by national agencies. German books sold in Switzerland being substantially more expensive than on the other side of the border, the price control agency increased its pressures for lower prices. The cartel first tried to negotiate a moderate price decrease and then decided to change its structure, using a single intermediary -- and resale price maintenance -- for all the trade with German publishers.

detect.³⁴ Even in the absence of interbrand explicit or tacit collusion, vertical restraints can still dampen interbrand competition: By affecting intrabrand competition, vertical restraints indirectly affect the manufacturers' behavior and, thus, alter interbrand competition as well. For example, exclusive territories not only reduce intrabrand competition within a given distribution network, they can also soften interbrand competition by reducing manufacturers' incentives to undercut each other.³⁵

Regarding the second aspect, vertical restraints can affect the number and characteristics of the active firms at both the manufacturing and distribution stages. They may be pro-competitive by enhancing the incentives to enter a market, e.g., by enhancing vertical coordination, but also by maintaining cartels or by simply relaxing interbrand competition --in which case they may increase profits but reduce, in the short run, consumer surplus and total welfare: In either case, products that may not be profitable in the absence of vertical restraints may become profitable thanks to their use. Vertical restraints can however also raise entry barriers. As already mentioned, they first can be used to foreclose market access and prevent the entry of potential efficient competitors.³⁶ More generally,

³⁴ For example, in the absence of resale price maintenance, a local variation in the retail price may be due to local shocks on retail costs or consumer demand and not to changes in the wholesale price. See Telser (1960) and Posner (1977) for a discussion of these issues, and Jullien, Rey and Vergé (1997) for a first formal analysis.

³⁵ See for example Rey and Stiglitz (1985, 1995). A similar idea has been formulated by Vickers (1985) and further explored by Bonanno and Vickers (1988) to show that manufacturers may prefer, for strategic purposes, to delegate the marketing of their products to independent distributors. Related ideas have been developed in the *marketing* literature (see for example McGuire and Staelin (1983)), while other contributions have enriched the delegation model (see for example Gal-Or (1991)).

³⁶ A first formal analysis has been proposed by Comanor and Frech (1985), developed by Mathewson and Winter (1987) and Schwartz (1987), who have recognized the role of incumbent manufacturers' competition for distributors, and complemented by Bernheim and Whinston (1992)

they can serve to “raise rivals' costs”,³⁷ where rivals may as well be actual competitors, in an attempt to drive them out of the market or at least substantially reduce their market share, as potential ones, in order to keep them out of the market or at least to delay their entry. Note that exclusive agreements may hurt retailers (who might prefer to carry several lines of products or benefit from increased competition among suppliers), but they can be compensated through a share of the extra profits generated so long as entry is successfully deterred.³⁸ Many types of vertical restraints can be used to deter entry. For example, long-term exclusive dealing provisions that tie distributors to a given brand induce them to engage in fiercer competition if competing products appear. Similarly, exclusive territories induce a tougher response in the event of geographically limited entry.³⁹

Of course, all these effects are anticompetitive and socially inefficient, particularly when contracts cover a long period. But market foreclosure and entry deterrence are also central issues in the contexts of development and international trade. In the context of trade liberalization, incumbents are mainly domestic firms and new-comers are more likely to be foreigners. Removing tariff barriers may then not be very effective if incumbent domestic firms can use exclusive agreements to

who have considered more general contracts than the simple linear tariffs previously analyzed. Comanor and Rey (1995) shows how exclusive contracts can also be used by established distributors to prevent the entry of more efficient ones.

³⁷ See Krattenmaker-Salop (1986) for an informal discussion in the U.S. institutional context.

³⁸ This point has first been made by Aghion and Bolton (1987), who have also shown that manufacturers can moreover avoid any such compensation when entry requires a minimal scale of operation (a point further explored by Rasmusen, Ramseyer and Wiley (1991)). Comanor and Rey (1994) and, in a different context, the recent literature on foreclosure already mentioned moreover stresses that both upstream and downstream incumbents may find it profitable to block entry at any single stage, as such single-stage entry may actually make the entire industry more competitive.

³⁹ See Rey and Stiglitz (1985) for a formalization of this idea.

foreclose their markets and deter entry. A lax competition policy may even serve, in that respect, as a non-tariff barrier (see for example the discussion by Pashigian (1961) of the history of the U.S. automobile in the 50s). Similarly, developing countries are often characterized by a weak interbrand competition, dominated by a few firms or cartels with strong market power. There again, these dominant actors can use vertical restraints as exclusionary weapons to protect themselves and infringe competition and economic development, at the cost of consumer welfare.

3. Guidelines for developing countries

Should policy guidelines for vertical mergers or vertical restraints be altered for developing economies?

First, the particularly high entry barriers often found in developing countries increase the risk of bottlenecks and thus give more force to the market foreclosure arguments described above; as a result, more weight should be given to those concerns when designing competition policy.

Second, vertical restraints are certainly one of the subjects where there are still divergent views around the world (and among economists). Improving vertical coordination may or may not benefit consumers, and vertical restraints can as well facilitate entry, when used for example by a manufacturer to enter a new foreign market, as deter entry, when used instead by incumbent firms. As a result, one may be lead to favor a more or less favorable attitude, depending on one's prior beliefs regarding the competitiveness of the markets. In the case of developing economies, this ambiguity should however be tilted towards a more cautious attitude. It is true that vertical restraints may help solve coordination problems between suppliers and their distributors. But the impact of

such improved coordination need not benefit consumers, all the more so when interbrand competition is weak, as it is usually the case in these economies. And these possibly positive effects have to be balanced with the fact that well-established firms can use these restraints in many ways so as to protect themselves against potential entrants.

Lastly, it should be noted that arguing for a rule-of-reason approach may be more difficult in countries which lack long-established competition policy guidelines and implementation experience. Automatic or *per se* rules have several advantages in this respect. Not only they are simpler to implement, they are moreover more transparent and, as such, their implementation may be less subject to pressures from incumbent firms. Given with the previous observation, this may suggest a quite conservative attitude against those restraints.⁴⁰

⁴⁰ A possible dividing line may consist in distinguishing between the restraints used by incumbents from those that are used by new entrants. Alternatively, imposing a time limit on the use of vertical restraints may achieve a similar objective.

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