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Innovation as a shield and a club in the agribusiness mergers [Ag-Biotech Symposium]
April 3, 2017
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People need to eat. All else equal, the more food that can be produced from an acre of land, the better off they'll be. Of course, people want to pay as little as possible for their food to boot. At heart, the antitrust analysis of the pending agribusiness mergers requires a simple assessment of their effects on food production and price. But making that assessment raises difficult questions about institutional competence.

Each of the three mergers – Dow/DuPont, ChemChina/Syngenta, and Bayer/Monsanto – involves agricultural products, such as different kinds of seeds, pesticides, and fertilizers. All of these products are inputs in the production of food – the better and cheaper are these products, the more food is produced. The array of products these firms produce invites potentially controversial market definition determinations, but these determinations are standard fare in antitrust law and economics, and conventional analysis handles them tolerably well. Each merger appears to pose overlaps in some product markets, though they seem to be relatively small parts of the firms' businesses. Traditional merger analysis would examine these markets in properly defined geographic markets, some of which are likely international. The concern in these markets seems to be coordinated interaction, and the analysis of potential anticompetitive coordination would thus focus on concentration and entry barriers. Much could be said about the assumption that product markets perform less competitively as concentration increases, but that is an issue for others or at least another day.

More importantly for my purposes here, to the extent that any of these mergers creates concentration in a market that is competitively problematic and not likely to be cured by new entry, a fix is fairly easy. These are mergers in which asset divestiture is feasible, in which the parties seem willing to divest assets, and in which interested and qualified asset buyers are emerging. To be sure, firms may be willing to divest assets at substantial cost to appease regulators even when competitive problems are illusory, and the cost of a cure in search of an illness is a real social cost. But my concern lies elsewhere.

The parties in each of these mergers have touted innovation as a beneficial byproduct of the deal if not its raison d'être. Innovation effects have made their way into merger analysis, but not smoothly. Innovation can be a kind of efficiency, distinguished from most other efficiencies by its dynamic nature. The benefits of using a plant to its capacity are immediate: costs and prices decrease now. Any benefits of innovation will necessarily be experienced in the future, and the passage of time makes benefits both less certain and less valuable, as people prefer consumption now rather than later. The parties to these mergers in their public statements, to the extent they intend to address antitrust concerns, are implicitly asserting innovation as a defense, a kind of efficiency defense. They do not concede, of course, that their deals will be anticompetitive in any product market. But for antitrust purposes, an accelerated pace of innovation is irrelevant unless the merger appears to threaten competition.

Recognizing increased innovation as a merger defense raises all of the issues that any efficiencies defense raises, and then some. First, can efficiencies be identified? For instance, patent portfolios can be combined, and the integration of patent rights can lower transaction costs relative to a contractual allocation of rights just as any integration can. In theory, avenues of productive research may not even be recognized until the firms' intellectual property is combined. A merger may eliminate redundant research efforts, but identifying that which is truly duplicative is often not easy. In all, identifying efficiencies related to research and development is likely to be more difficult than identifying many other kinds of efficiencies. Second, are the efficiencies merger-specific? The less clearly research and development efficiencies can be identified, the weaker is the claim that they cannot be achieved absent the merger. But in this respect, innovation efficiencies can be more important than most other kinds of efficiencies, because intellectual property sometimes cannot be duplicated as easily as physical property can. Third, can innovation efficiencies be quantified? If innovation is expected to take the form of an entirely new product, such as a new pesticide, estimating its value is inherently speculative. Fourth, when will efficiencies save a merger that would otherwise be condemned? An efficiencies defense implies a comparison between the expected harm a merger will cause and the expected benefits it will produce. Arguably those benefits have to be realized by consumers to count at all, but, in any event, a comparison between expected immediate losses of customers in an input market and expected future gains from innovation may be nearly impossible to make. The Merger Guidelines acknowledge that innovation efficiencies can be considered and note many of the concerns just listed. The takeaway is a healthy skepticism of an innovation defense. The defense should generally fail unless the model of anticompetitive harm in product (or service) markets is dubious or the efficiency claim is unusually specific and the likely benefits substantial.

Innovation can enter merger analysis in an even more troublesome way, however: as a club rather than a shield. The Merger Guidelines contemplate that a merger may have unilateral anticompetitive effects if it results in a "reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products." The stark case is one in which a merger poses no competitive problem in a product market but would allegedly reduce innovation competition. The best evidence that the elimination of innovation competition might be a reason to oppose one or more of the agribusiness mergers is the recent decision of the European Commission approving the Dow/DuPont merger, subject to various asset divestitures. The Commission, echoing the Guidelines, concluded that the merger would significantly reduce "innovation competition for pesticides" by "[r]emoving the parties' incentives to continue to pursue ongoing parallel innovation efforts" and by "[r]emoving the parties' incentives to develop and bring to market new pesticides." The agreed upon fix requires DuPont to divest most of its research and development organization.

Enforcement claims that a merger will restrict innovation competition should be met with every bit the skepticism due defense claims that innovation efficiencies save a merger. There is nothing inconsistent in this symmetry. The benefits of innovation, though potentially immense – large enough to dwarf the immediate allocative harm from a lessening of competition in product markets – is speculative. In discounted utility terms, the expected harm will usually exceed the expected benefits, given our limited ability to predict the future. But the potential gains from innovation are immense, and unless we are confident that a merger will reduce innovation, antitrust law should not intervene. We rarely are, at least we rarely should be.

As Geoffrey Manne points out, we still do not know a great deal about the optimal market structure for innovation. Evidence suggests that moderate concentration is most conducive to innovation, but it is not overwhelming, and more importantly no one is suggesting a merger policy that single-mindedly pursues a particular market structure. An examination of incentives to continue existing product development projects or to initiate projects to develop new products is superficially appealing, but its practical utility is elusive. Any firm has an incentive to develop products that increase demand. The Merger Guidelines suggest that a merger will reduce incentives to innovate if the introduction of a new product by one merging firm will capture substantial revenues from the other. The E.C. likely had this effect in mind in concluding that the merged entity would have "lower incentives . . . to innovate than Dow and DuPont separately." The Commission also observed that the merged firm would have "a lower ability to innovate" than the two firms separately, but just how a combination of research assets could reduce capability is utterly obscure.

In any event, whether a merger reduces incentives depends not only on the welfare of the merging parties but also on the development activities of actual and would-be competitors. A merged firm cannot afford to have its revenue captured by a new product introduced by a competitor. Of course, innovation by competitors will not spur a firm to develop new products if those competitors do not have the resources needed to innovate. One can imagine circumstances in which resources necessary to innovate in a product market are highly specialized; more realistically, the lack of specialized resources will decrease the pace of innovation. But the concept of specialized resources cannot mean resources a firm has developed that are conducive to innovate and that could be, but have not yet been, developed by other firms. It cannot simply mean a head start, unless it is very long indeed. If the first two firms in an industry build a plant, the fact that a new entrant would have to build a plant is not a sufficient reason to prevent the first two from merging. In any event, what resources are essential to innovation in an area can be difficult to determine.

Assuming essential resources can be identified, how many firms need to have them to create a competitive environment? The Guidelines place the number at "very small" plus one. Elsewhere, the federal antitrust agencies suggest that four firms other than the merged firm are sufficient to maintain innovation competition. We have models, whatever their limitations, that predict price effects in oligopolies. The Guidelines are based on them. But determining the number of firms necessary for competitive innovation is another matter. Maybe two is enough. We know for sure that innovation competition is non-existent if only one firm has the capacity to innovate, but not much else. We know that duplicative research efforts can be wasteful. If two firms would each spend $1 million to arrive at the same place, a merged firm might be able to invest $2 million and go twice as far or reach the first place at half the total cost. This is only to say that a merger can increase innovation efficiency, a possibility that is not likely to justify an otherwise anticompetitive merger but should usually protect from condemnation a merger that is not otherwise anticompetitive.

In the Dow/DuPont merger, the Commission found "specific evidence that the merged entity would have cut back on the amount they spent on developing innovative products." Executives of the two firms stated that they expected to reduce research and development spending by around $300 million. But a reduction in spending does not tell us whether innovation will suffer. The issue is innovation efficiency. If the two firms spent, say, $1 billion each on research, $300 million of which was duplicative of the other firm's research, the merged firm could invest $1.7 billion without reducing productive effort. The Commission complained that the merger would reduce from five to four the number of firms that are "globally active throughout the entire R&D process." As noted above, maybe four firms competing are enough. We don't know. But the Commission also discounts firms with "more limited R&D capabilities," and the importance to successful innovation of multi-level integration in this industry is not clear.

When a merger is challenged because of an adverse effect on innovation competition, a fix can be difficult. Forced licensing might work, but that assumes that the relevant resource necessary to carry on research and development is intellectual property. More may be required. If tangible assets related to research and development are required, a divestiture might cripple the merged firm. The Commission remedy was to require the merged firm to divest "DuPont's global R&D organization" that is related to the product operations that must be divested. The firm is permitted to retain "a few limited [R&D] assets that support the part of DuPont's pesticide business" that is not being divested. In this case, such a divestiture may or may not hobble the merged firm, depending on whether the divested assets would have contributed to the research and development efforts that it will continue to pursue. That the merged firm was willing to accept the research and development divestiture to secure Commission approval does not mean that the divestiture will do no harm to the firm's continuing research and development activities. Moreover, some product markets at issue in this merger are geographically limited, whereas the likely benefits of innovation are largely international. The implication is that increased concentration in product markets can be avoided by divesting assets to other large agribusinesses that do not operate in the relevant geographic market. But if the Commission insists on preserving five integrated firms active in global research and development activities, DuPont's research and development activities cannot be divested to one of the other major players, which the Commission identifies as BASF, Bayer, and Syngenta, or firms with which any of them are attempting to merge, namely Monsanto and ChemChina. These are the five firms, of course, that are particularly likely to be interested buyers.

Innovation is important. No one disagrees. But the role of competition in stimulating innovation is not well understood. Except in unusual cases, antitrust institutions are ill-equipped either to recognize innovation efficiencies that save a merger threatening competition in product markets or to condemn mergers that threaten only innovation competition. Indeed, despite maintaining their prerogative to challenge mergers solely on the ground of a reduction in innovation competition, the federal agencies have in fact complained about an adverse effect on innovation in cases that also raise competitive issues in product markets. Innovation is at the heart of the pending agribusiness mergers. How regulators and courts analyze innovation in these cases will say something about whether they perceive their limitations.

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