Similarly, Firm 24, which paid a substantial amount to acquire a brand name and technology, had no possibility of recouping its investment unless it built a manufacturing plant. Firm 24 was a start up company managed by executives from the firm that respondent acquired and financed by a venture capital company. This industry did not have contract manufacturers; thus the buyer had to make the product for itself. As a result, it became less and less able to walk away from the business without losing its payment to respondent and its investments in new production facilities. It also succeeded quickly in establishing a profitable firm.

It is difficult to insist on equivalent ways to commit large firms. The acquisition price for a divestiture is rarely so large that a multi-divisional firm would not walk away from its investment in divested assets if the business did not meet its internal rate of return criteria. For this reason, staff examines the business plan of large firms with special reference to their own criteria, seeking to understand how the acquisition is justified internally. For these firms, the internal bureaucratic approval systems may represent a commitment sufficient to support the divestiture.

(c) The size of the buyer may make a difference, such that smaller buyers should not be presumed to be less competitive buyers

In the Study, small buyers were successful more often with divested assets than large multidivisional firms. Of 23 divestitures to smaller firms, only three made mistakes serious enough to put them out of business. In contrast, of the 14 divestitures to large firms, four of them made serious mistakes that destroyed their profitability permanently or for a significant period of time.[39] Partly, the better record of smaller firms appears to be due to commitment. The owners had risked their own money and were therefore more determined to succeed. They examined the acquisition more carefully and planned more carefully. Also, they appear to have been more opportunistic. Because they had fewer levels of review and fewer issues to focus on, they were more able to adapt quickly to changing competitive conditions. As a result, staff should not presume that a smaller firm may necessarily be a less competitive buyer than a larger firm.

On the other hand, larger buyers have deep resources that may substitute for commitment. Large buyers, unlike small ones, can absorb the consequences of gross financial mistakes and ignore historical costs. Firm 1, for example, despite being locked into losses in its initial years as a result of paying too much and entering an unfavorable contract with respondent, approached the market aggressively and expanded its market share with innovative products. While some large firms made fatal errors, such as the mistake of Firm 16, which could not manufacture the product it acquired, large firms can often afford to ignore the fact that they paid too much. Furthermore,

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[39] This represents only seven out of the nine divestitures that did not satisfy the remedial purposes of the order. The remaining two, which are discussed in section II.A., above, included a divestiture of assets that did not operate in the complaint market at the time of the divestiture and whose buyer never entered the complaint market and a divestiture of assets that never operated independently of the respondent. These two divestitures, while not effective remedies for the Commission, were profitable ventures for the buyers.

they more often have technical expertise that can make them less dependent on assistance from the respondent.

c. Facilitate the transfer of business information

Transferring confidential business information can be the most difficult aspect of a divestiture. The case studies illustrate that it is extraordinarily difficult to obtain good information about a newly acquired business. Indeed, even for those who operate the business, there is likely to be no one person who fully understands all aspects of the business. Businesses are organic units, and when parts are split off, some knowledge is bound to be lost.[40] Nevertheless, the Commission has ordered divestitures of licenses or licenses with selected assets that do not constitute an operating unit. In order to make these transfers more effective, recent orders or divestiture contracts have included some or all of the following requirements:

- Respondent must grant the buyer rights to all related technology.

This is a factor that relates especially to the transfer of intangible rights, patents and the like. It is essential that the buyer obtain the full set of rights associated with transferred technology. The respondent must not be allowed any right to terminate licenses to buyers. Otherwise even if the transfer is successful, the buyer is likely to find that its product cannot be improved or expanded because the buyer lacks the full rights to the manufacturing process. Unlike the firm acquired by the respondent, the buyer will not be able to modify and improve the process if the rights that it has received are more limited. Limitations on technology uses will reduce the incentives to invest in further research, because the use of such research will also be limited.

- Respondent must grant the buyer a right to technical assistance.

This has been the traditional manner of dealing with the problem. As noted earlier, however, the case studies suggest that technical assistance is inadequate by itself. The principal problem was identified by Firm 5: Respondents fail to provide competent assistance, and buyers really cannot tell how good the assistance is that they are getting. That may be why a number of buyers simply declined to seek any of the assistance to which they had rights. Rather, they relied on their own internal technical capacities. Similarly, Firm 6 used its own resources to produce its own product, rather than rely on assistance from respondent to replicate respondent's product. Firm 3, when it found it could not get assistance from the respondent, sought and obtained assistance directly from the manufacturer of the machines. Other firms have not been so fortunate; consequently, technical assistance generally must be supplemented with some or all of the order provisions discussed below.

- Respondent must grant the buyer a right to inspect the respondent's facilities in operation.

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[40] That is why, for example, crown jewels typically require the inclusion in the divestiture of a full operating unit.

The case studies indicate the buyer may not know what questions it should ask when it is seeking technical assistance. Firm 8, for example, did not know how to pick the right production machinery or raw materials. Firm 5 and Firm 14 each made mistakes when they had choices on which machines to buy. One way to cure the problem of not knowing what questions to ask is to view the equipment in operation. This has the advantage of communicating all of the procedures that are not covered in the manual and provides a benchmark against which to check how well the buyer's machine is working. Again, it is a method of redressing the imbalance of information that favors the respondent and disfavors the buyer.

- Respondent must grant the buyer the right to seek to hire selected people from the merged firm who have important knowledge.

Sometimes there is no fully adequate substitute for experienced personnel. It is the essence of why the transfer of on-going businesses has such a high success rate even though the buyers of those operations also made frequent serious mistakes in their divestiture contracts. The knowledge of individuals can be equally important in technology transfer divestitures. Firm 24's experience provides a small but illustrative example. Firm 24 included a number of former managers of the firm that respondent had acquired. Respondent delivered a set of technical drawings for the product. Because of their previous experience, the former managers knew that some sets of drawings were missing despite protestations that all had been handed over. Firm 15 showed that simply having the right to hire could have the desired effect. It found by interviewing the sales personnel it was entitled to hire that it learned enough about how the operation had been conducted that it did not need to hire any additional employees.

While neither the order nor the contract can require a person to accept work with the buyer, terms in the order or the contract may make it more likely that such persons will accept work with the buyer by waiving nondisclosure or noncompetition agreements and by offering incentives in the form of vesting pension rights and paying bonuses. The order or the contract may also include provisions that effectively preclude the respondent from continuing to employ the individuals and/or rehiring them for a period of time.[41]

d. Summary

Many of the recommendations derived from the Divestiture Study for formulating better divestitures are discussed above, but some topics warrant further iteration here:

1. The order, the divestiture contract, the buyer, and the buyer's business plan should be evaluated in terms of whether the divestiture will restore competition in the complaint market. This means the divested entity must have the same potential and incentives to expand and innovate as the firm that disappeared. It should not

[41] Precluding a person from continuing to work for the respondent is based on the same principle as the noncompetition clause, that is, that the individual's knowledge was gained in association with the intangible property that is being sold and that the value of that property is diminished if the employee is allowed to work for a person who is not the holder of the property.

be a firm that has continuing dependency on the respondent or that is frozen in a static product or locked in a narrow competitive niche.

2. The divestiture package must take into account the fact that the respondent almost always has greater information about the to-be-divested business than either the buyer or the staff. The divestiture must reduce or eliminate this information imbalance and protect the viability of the divested business before and during the divestiture. Growing experience with hold separate agreements, crown jewels, rights to visit respondents' facilities, rights to hire employees, and auditor trustees, indicates these are important tools to redress some of the imbalance and facilitate transfers.

3. The most effective divestitures have been those of on-going businesses. Divestitures of narrow asset packages, even with some of the protections discussed above, create a greater risk that competition will not be restored, and thus must be carefully examined before they are accepted.

4. The overall design of a divestiture should result in as complete separation of the buyer and the respondent as possible even if transitional arrangements require supply contracts, technical assistance agreements and other continuing relationships. It does not fully reestablish competition if after the divestiture is complete, the two are natural economic allies as suppliers, customers, or competitors.

5. The most successful buyers are the most knowledgeable. Buyers who are making geographic extension mergers of ongoing businesses are the most successful. They are the most likely to know how to operate the business and determine if necessary elements are missing. They are also most likely to know how to put together a full business from elements designed to facilitate entry. For the same reason, vertically related suppliers or customers may have crucial knowledge that decreases the likelihood of serious mistakes and increases the likelihood of success. Similarly, producers or marketers of products in adjacent markets are more likely to be successful.

III. Innovations in More Recent Orders

A. Shortening the divestiture period

In order to eliminate competitive harm, the Commission has greatly shortened the period by which a required divestiture must be completed in more recent orders.[42] The working rule now is that the divestiture must be accomplished within six months after the consent agreement is signed. Earlier orders typically gave the respondent 12 months or more from the date the order became final to divest.[43] To further reduce or eliminate interim harm by obtaining quicker divestitures, recent orders have required "up-front" divestitures. The up-front divestiture not only reduces the opportunity for interim competitive harm by expediting the divestiture process, but it assures at the outset that there will be an acceptable buyer for the to-be-divested assets.

The up-front divestiture policy shifts the costs of delaying the divestiture from the public to respondents. Typically, a respondent consummates its acquisition as soon as the Commission accepts an order for public comment. The respondent, thus, realizes the benefits of the merger immediately, while the to-be-divested assets tend to be less vigorously operated at least until the new owner takes over. Consequently, the respondent has little incentive to complete the divestiture before the end of the period allowed in the order.[44] Where the order includes an up-front divestiture, however, the respondent is prevented from consummating its proposed merger until an acceptable buyer for the to-be-divested assets is found, the buyer conducts an adequate due diligence, and the buyer prepares and submits its business plan to the Commission. Consequently, respondent has an economic incentive to find an acceptable buyer and divest the business as soon as possible.

As a result of these two changes, the average time for a divestiture to be accomplished has fallen dramatically from an average 15 months after the order became final in fiscal year

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[42] Some of the buyers in the Study discussed with staff their concerns in connection with the amount of time that elapsed between the time they signed an agreement with respondent and the time the agreement was finally approved by the Commission. One interviewee specifically discussed the problems associated with the deterioration of the to-be-divested assets that occurred before an acceptable buyer was approved.

[43] The 12 months from the time the order became final often became 15 months from the time the respondent negotiated the terms of the order and executed the Agreement Containing Consent Order. Commission rules require that a proposed order be placed on the public record for a sixty-day comment period before it considers making the order final. The period in between the end of the comment period and the time the Commission makes its final determination could be at least another month. Thus, the 12-month divestiture period grows to an actual 15-month period.

[44] The shorter divestiture periods that the Commission is including in more recent orders will minimize to some extent the interim competitive harm.

1995, to six months after the order became final in fiscal year 1996, and three months after the order became final in fiscal years 1997 and 1998.[45]

B. Orders in pharmaceutical cases

Contemporaneously with the Divestiture Study, the Commission entered a series of orders against pharmaceutical and health product companies.[46] These orders included new provisions, such as the auditor trustee and the redivestiture requirement (if the buyer fails to gain FDA approval to produce the divested product, the product reverts to respondent and respondent must redivest). The new provisions in these pharmaceutical orders suggested solutions for more widespread problems identified in the Divestiture Study. At the same time, the case studies helped to develop remedial ideas for the pharmaceutical orders.

The pharmaceutical orders played an important role in the development of the divestiture remedies because they posed, in a more obvious form, some of the difficulties found in the Study. The pharmaceutical mergers proposed to combine very large companies that operated in many markets but posed serious antitrust concerns in only one or two markets. Generally there were no manufacturing assets or employees that were dedicated to the products that were to be divested because the products were manufactured in plant that produced many products. Consequently, it was impossible to divest an ongoing business if the divestiture was to be limited to the products that created competitive concerns. Even more troublesome was the fact that the Commission could not be assured that the buyer would be able to produce the product until the buyer received FDA approval, an approval process that might take years. Consistent with the Commission's efforts to allow firms to realize efficiencies through mergers, staff explored ways of protecting competition while permitting the mergers.[47]

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45 *See* W. Baer, "Report from the Bureau of Competition," American Bar Assn, Section of Antitrust Law, 1998.

46 *Roche Holdings, Ltd.*, FTC Docket No. C-3809, (May 22, 1998) (Decision and Order); *American Home Products*, FTC Docket No. C-3740, 123 F.T.C. 1279 (1997) (Decision and Order); *Ciba-Geigy Ltd. et al.*, C-3725 (Mar. 24, 1997) (Decision and Order); and *Glaxo plc*, FTC Docket No. C-3586, 119 F.T.C. 815 (1995) (Decision and Order).

47 The acceptance of licensing remedies in these cases is part of a broader Commission policy to support innovation and efficiencies through its merger enforcement program. The 1997 revisions to 1992 Horizontal Merger Guidelines further explained circumstances in which a demonstration of merger specific efficiencies could overcome a presumption that a proposed merger was unlawful. These revisions were based in part on the earlier Commission report on "Competition Policy in the New High-Tech, Global Marketplace." One of its major conclusions was that including efficiencies in its analysis of mergers was appropriate under the antitrust laws and was beneficial for the economy. The greater sensitivity to efficiencies has supported the growth of licensing remedies and other partial divestitures that facilitate new entry in a market while also permitting merging parties to seek the benefits from mergers. The Divestiture Study has provided some insights into why some of these orders have (continued...)

Securing effective relief in these orders has posed a series of special problems. Foremost among them is the fact that divestiture is not possible unless the Food and Drug Administration authorizes the buyer to produce the drug or health product. Until approval is obtained, the most that the buyer could expect to do under FDA rules is to market and distribute the products made by the respondent. In the meantime, the buyer would be required to build and replicate exactly the respondent's production facilities. The orders had to reflect these realities through provisions requiring interim supply agreements and technical assistance for a substantial period of time.

Given the possibility that the divestiture might never occur if regulatory approval were not granted, the staff had to consider that possibility. Allowing the rights to languish or revert to the respondent would be inconsistent with the objective of the orders. Two complementary approaches were developed to deal with this contingency. One approach was to terminate the rights of the buyer who fails to obtain FDA approval and require redivestiture to a new buyer. The other was to add a crown jewel that would be triggered by the failure of the divestiture to the first buyer. Frequently, the crown jewel is the production facility that is already authorized to produce the drug or medical device. It is easier to obtain quick approval by the FDA of a change of management than it is to get a new facility approved. To make the production facility viable, the crown jewel may also require the transfer of other drugs as well.

The delay required by regulatory restrictions coupled with the possibility of redivestitures made clear the necessity for ongoing monitoring of these technology transfers. Recognition of the vulnerability of these assets during the long transitional period led to the first use of the monitor or auditor trustees. Even without the examples from the Divestiture Study, it was clear that deterioration of these regulated assets could jeopardize their regulatory approval and ruin their competitive viability. An after-the-fact remedy providing for civil penalties would be inadequate relief. In contrast, an auditor trustee who has understanding of both the technology and the FDA process could provide the Commission and staff with timely information to forestall harm to the product and ensure effective transfer of the technology and approval by the FDA. Accordingly, these were the first orders to require that parties that wanted to consummate problematic mergers would have to assume the costs of disentangling the overlapping products, including the cost of an auditor trustee.

The pharmaceutical divestitures established a precedent that complex technology divestitures could be acceptable remedies for large mergers. Resolution of the difficult issues concerning these orders and divestitures allowed respondents to merge without fundamentally undermining the hoped-for efficiencies. Respondents in other industries have pressed for the applicability of these precedents to the orders in their cases. They sometimes urged successfully that the special protections required by the regulatory process were not necessary to make their divestitures successful; thus these orders more typically required neither a monitor trustee nor a crown jewel.

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[47] (...continued)
been more effective than others.

These non-pharmaceutical orders and the lessons of the Divestiture Study have clarified that the protective provisions initiated in the pharmaceutical orders are generally necessary for technology transfers. The case studies and experience with more recent orders that lack auditor trustees indicate the inherent problems with technology transfers. They arise from information disparities between the buyer and seller, from indifference (and hostility) on the part of respondents to buyers, and from the complexity of business operations. These problems may be exacerbated in the case of divestitures that require regulatory approval, but they are not fundamentally different.

IV. Conclusions

The Divestiture Study has provided a framework in which to understand the difficulties posed by divestitures and the means to overcome those difficulties. This understanding makes it more possible to use the premerger notification procedures to obtain effective relief in mergers while still allowing merging firms to seek efficiencies through integration.

Many of the problems cited in the legislative history of the HSR Act can be mitigated or avoided entirely by designing relief before a merger is consummated. Moreover, many of the remaining problems in formulating effective relief through divestitures are now specifically addressed in the Commission's orders and the divestiture contracts approved by the Commission. The orders address the Congressional concerns that "key employees [will be] lost" and that "goodwill of the acquired firm be dissipated." Asset maintenance provisions and hold separate agreements both recognize that the organic nature of a business can be destroyed before an antitrust remedy is put into place. These general approaches have been refined to require that respondents provide incentives for specific groups of employees to stay with the business until the transfer, to remove contractual barriers so the members of the group can transfer to the owner of the divested assets, and to provide incentives to transfer employment to the new entity. The package of divested assets has been defined to include rights that will allow the divested business to innovate, and thereby not be locked into replicating the product made at the time of the merger. All of these remedial devices, which take advantage of premerger notification under the HSR Act, are ordered routinely to preserve the continuity of the competing entity throughout the divestiture period.

The problems of interim harm are being further reduced by policies insisting on buyers-up-front. At least where the divested business is part of the acquired entity, the buyer-up-front avoids the problems of commingling. In addition it implements the HSR Act objective of preventing (rather than remedying) competitive harm. And, insistence on up-front buyers changes the dynamics by shifting the costs of delay to the respondent who cannot merge until a buyer is found and approved by the Commission.

The Divestiture Study provides support for preferring the divestiture of an on-going business with a customer base over the divestiture of assets that facilitate entry. For those cases in which the Commission is persuaded to accept the divestiture of technology without an existing customer base, the case studies have provided a framework in which to evaluate the adequacy of a divestiture remedy that requires divestiture of less than an on-going business.

The search for solutions that permit companies to seek synergies and other efficiencies from mergers and also prevent competitive harms will continue on a case-by-case basis. In each industry, the adequacy of a proposed divestitures will be measured by the risks associated with the transfer of a competitively viable business. This cannot result in a fully uniform set of orders because the risks and burdens of the orders will vary with the facts of particular transactions. Only the objective remains the same: to maintain the competition that otherwise would be eliminated by the merger. The case studies provide insights into how divestitures can maintain or create viable and competitive entities that meet that objective.