those efficiencies that could not be achieved without the merger will be considered in the merger analysis. Then, consistent with actual practice by the courts, the amended guidelines go on to say:

> The Agency will not challenge a merger if cognizable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market.

Anticompetitive in the context of the above quotation simply means a price increase. Finally, efficiency findings must overcome the potential anticompetitive effects without the efficiencies. So the larger the latter are, the larger the former must be. The new guidelines state that "in the Agency's experience, efficiencies are most likely to make a difference in merger analysis when the likely adverse competitive effects, absent the efficiencies, are not great. Efficiencies almost never justify a merger to monopoly or near-monopoly."

Case Study 23.1 *Staples-Office Depot (1997): A Home Run for the FTC*[20]

In September 1996 Staples and Office Depot, the two largest office superstore chains, with combined sales of over $10 billion, announced an agreement to merge. The Federal Trade Commission opposed the merger, which led to an application in district court for an injunction to prevent it. After a 7-day trial in June 1997, Judge Hogan granted the injunction, effectively killing the merger.

The case was a major victory for the FTC and its economists (staff and expert) in several respects.

1. The FTC's presentation of the case was a meticulous demonstration of modern methodology in merger cases, with careful and innovative use of data and econometric studies, and a perfect understanding of the traps involved in market definition, including the cellophane fallacy.
2. This case established the use of unilateral-effects analysis (as opposed to coordinated-effects analysis) in merger cases.
3. The Staples case confirmed that U.S. courts will apply a "price standard" in merger cases; i.e., a contested merger will be permitted only if the defendants can demonstrate that prices will not rise as a result of the merger. This is, of course, much more stringent than the criterion that allows the merger if it results in an increase in total surplus.
4. Associated with the price standard is a minor role for claims of efficiency gains arising from a merger. U.S. courts have never allowed much of a role for efficiency claims, but a price standard clearly implies that efficiency gains have to be very substantial before they can outweigh the anticompetitive effects of a merger.

Office superstores (OSSs) are the supermarkets of the office supply business. They supply a vast number of products (5,000 to 6,000 items) in a warehouselike space with easy parking and low prices. The low prices are achievable because of economies of scale and scope in buying, distribution, and marketing. Moreover, they are able to offer a superior product to small business consumers by providing one-stop shopping and lowering time costs. Beginning in the 1980s they have been the fastest-growing segment of the office supply market; just as in the case of the supermarket revolution in groceries, many small stores have gone out of business because they are unable to compete with the low prices and quality of service.

Although several firms had tried to enter the OSS market, by the mid-1990s there were only three effective competitors, Staples, Office Depot, and OfficeMax. The three companies had similar levels

[20] Much of the material for this case study was drawn from an excellent discussion of this case by Dalkir and Warren-Boulton (1999).

of total sales, and each operated over 500 stores. Since they were not always in the same geographical market, larger cities across the United States consisted of either monopolies, duopolies, or triopolies in the office superstore business.

A major element in the government's case was establishing that OSSs were indeed a relevant antitrust market. In fact, OSSs accounted for only 6% of total office supply sales, so the defense had grounds for a traditional argument that the combined market share of the merged entity was too small to enable it to exercise market power and raise prices. The FTC used several distinct approaches to establish its case.

1. FTC experts established that OSSs offer a distinct set of products and services. Compared to other stores selling office supplies, they carry a much larger number of products and keep extensive stocks on hand, to increase the attraction of one-stop shopping.
2. Second, data from the three companies indicated that each feared competition from the other two, but not from traditional stores.
3. The FTC's econometric evidence supported its claim that the three OSS firms disciplined each other's pricing behavior, but that the presence or absence of non-OSS retailers had little effect on the pricing decisions of the OSS firms. Recall the hypothetical monopolist test under the Merger Guidelines, which would establish OSSs as a relevant antitrust market if a merger to monopoly involving all three OSS firms would elevate prices by more than 5%. Although this is normally a distinct and prior question to the question, "What will be the price effects of the proposed merger?" in this case the two questions could be addressed in part by the same data. The reason was the availability of data from several hundred "city markets," in which one, two, or three of the OSSs were operating. Thus, by comparing prices in a monopoly or duopoly city market with a comparable city in which all three OSSs operated, antitrust investigators could readily obtain a crude estimate of the likely effects of both the "hypothetical monopoly" and of the merger itself. Such a comparison showed price increases well in excess of 5%. For example, comparing city markets with Staples only to those with Staples and Office Depot, investigators found that prices were more than 10% higher in the former.

   The FTC went much further and constructed an econometric model of the industry, including both large and small non-OSS stores. In the former case both the warehouse clubs and the large multiproduct retailers such as Wal-Mart have a significant role in the office supply business. What the model predicted was that a merger to monopoly of OSSs would raise prices by 8.49%, well in excess of the 5% needed for an antitrust market.

Once the econometric model had been constructed, it could also be used to predict the price effects of the proposed Staples-Office Depot merger. The model predicted that the merger would increase prices by an average of 7.3% for the two- and three-firm markets where the merger partners were both present.

Another innovative approach that the FTC utilized to predict the price effects was a stock market event study. As we have seen in the chapter, horizontal mergers are likely to increase prices and profits for both merging and nonmerging firms unless the merger creates substantial efficiency gains, in which case profits of the nonmerging firms could fall as a result of the merger. In an efficient stock market, the announcement of a merger should trigger changes in equity values that reflect these changes in underlying expected future earnings. The FTC event study showed that the market was predicting future profit increases for both merging and nonmerging firms, and of an order of magnitude consistent with the price increases predicted by the econometric model.

Barriers to Entry and the Likelihood of Entry-Restraining Price Increases

The effects of a merger in increasing prices can be mitigated by entry, occurring in response to new profit opportunities. Thus, the analysis of barriers to entry and of the potential for entry is always one of the central features of a merger investigation. The FTC presented data to show that there were considerable economies of scale and scope in the OSS business, certainly extending up to the scale of the three existing incumbents. In particular, documents from the existing OSS firms indicated that advertising economies of scale were significant at the regional and even at the national level. It could also be observed that within the existing market structure, no new entry of superstores was occurring. Thus, the FTC concluded that barriers to new entry were formidable in this market and very unlikely to undo the anticompetitive effects of allowing the merger.

Efficiencies

Merger participants are likely to claim a strong role for efficiencies, and this was true of Staples-Office Depot. Under the Merger Guidelines efficiency gains have to be of sufficient magnitude that they lead to a lower price to consumers as a result of the merger, and even then the legal weight of efficiency claims is not entirely guaranteed. In this case, since economies of scale and scope were a big part of the reason why OSSs came into existence, it is not surprising that the defense claimed that these economies could be further exploited through the merger. Based on its own econometric study, the defense claimed that efficiency gains alone would cause prices to be lower by 3% than they would be in the absence of the merger. Coupled with the defense's estimate of the price effect of the merger without efficiencies of only 0.8% (across all Staples stores), the net effect of the merger would be to *reduce* prices by 2.2% on average.

The plaintiffs' estimates of efficiency gains were much smaller. They argued that economies of scale were exhausted at around the scale of the incumbents, and that the merger itself would not create major scale-based gains. Moreover, efficiency gains only count if they can only be attained through the merger, and not through expected internal growth. The FTC's estimate of the efficiency effect on prices was a paltry 0.2%, which did little to correct the significant anticompetitive price effects.

Judge Hogan accepted the plaintiff's case in almost every respect. He agreed that OSSs were a relevant antitrust market, and that the merger would have significant anticompetitive effects on prices. As well as the econometric evidence, he appeared to find that the companies' own documents provided compelling evidence that each regarded the other two as its only significant competitors. He also agreed with the FTC's assessment of barriers to entry, and found it unlikely that a new OSS would enter and undo the price effects of the merger. Finally, on efficiencies, Judge Hogan found the defendants' estimates of efficiency gains to be unrealistically large.

23.5.6 Methodology: The Growing Role of Simulation in Antitrust Analysis

In the mid-1990s, the Department of Justice showed interest in a radically new methodology for conducting merger analysis. Pioneered by Luke Froeb and Gregory Werden, the procedure essentially removes the need for defining a relevant antitrust market, which has been the cornerstone of U.S. merger jurisprudence for most of the 20th century. In its place, the methodology attempts to model the market equilibrium directly, pre- and postmerger (just as we did at the beginning of the chapter), and assess the anticompetitive effect from the outcome of the model.

The major advantage of this approach is that it removes much of the rent-seeking debate about market definition (two high-priced economists can always be found who support opposite contentions