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7-25-2000

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Jason Zimmerman

South Dakota State University, jason.zimmerman@sdstate.edu

Alan May

South Dakota State University

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Recommended Citation

Zimmerman, Jason and May, Alan, "Could the Microsoft Breakup Raise Software Prices?; Grain Outlook -- Summer 2000" (2000). *Economics Commentator*. Paper 400.

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ECONOMICS COMMENTATOR

South Dakota State University

No. 408

July 25, 2000



COULD THE MICROSOFT BREAKUP RAISE SOFTWARE PRICES?

Jason Zimmerman
Assistant Professor
Economics Department

In his final ruling in *United States v. Microsoft*, Judge Thomas Penfield Jackson ordered Microsoft divided into two independent companies, one producing the popular Microsoft Windows operating system, the other producing software applications. The impetus behind this decision was to prevent an integrated Microsoft from using its market power to eliminate competitors through predatory behavior. The court determined that, among other "antics," Microsoft had illegally bundled its internet browser program, Internet Explorer, with Windows in an effort to prevent Netscape from threatening its dominant market position. Furthermore, Microsoft deliberately integrated Explorer with Windows in such a way as to make it difficult for consumers to use Netscape's rival browser, Navigator.¹ By separating its operating systems and applications businesses, the government hopes that Judge Jackson's ruling will prevent similar abuses in the future, thus encouraging more competition in the operating systems and applications markets.

It is not clear how this breakup will affect software prices. On one hand, if the ruling stops Microsoft from impeding its rivals, increased competition should apparently lower prices in both markets. If the split occurred today, however, Microsoft would face negligible competition in either market, instead of being an integrated monopolist producing both an operating system and applications, it would be broken up into two smaller monopolies. Ironically, economic theory predicts that these "mini-Microsofts" may charge higher prices after the breakup than before.

(Continued on page 2)

¹ *United States of America v. Microsoft*, Findings of Fact.



GRAIN OUTLOOK -- SUMMER 2000

Alan May
Extension Economics/
Grain Marketing

The National Agricultural Statistics Service (NASS) released its Acreage Report on June 30th. This report, which is issued once a year, contains USDA's estimates of acres planted to crops grown in the United States. The grain trade watches this report closely to gauge production estimates for the current year. In the weeks prior to its release, most trade analysts expected the USDA to report a slightly higher number of acres planted to corn and soybeans and fewer acres planted to wheat. However, some of the numbers released in the report had to be labeled as "unexpected."

Corn

Perhaps the biggest surprise in the report was the number of acres planted to corn. Table 1 shows the acres planted to corn in the United States and South Dakota as reported by NASS.

Table 1. Acres Planted to Corn (million acres)

	<i>United States</i>	<i>South Dakota</i>
2000:	79.6	4.30
1999:	77.4	3.60
1998:	80.2	3.90
Trade Est. - Range:	76.4 - 77.94	N/A
Trade Est. - Average:	77.92	N/A

While most trade analysts expected the corn acreage to increase over 1999, the actual reported acreage was over 1.5 million acres higher than the average trade estimate. More importantly, the planted acreage for 2000 is over 2 million acres higher than what was planted to corn in 1999. The 2000 planted acreage is slightly lower than it was in 1998. In South Dakota, 4.3 million acres of corn were planted this year, up 19% *(Continued on page 2)*

Systems Goods

The Windows operating system and applications such as Microsoft Word and Microsoft Excel are what economists call "systems goods." These are goods that are useful only when they are used together.² Other common examples of systems goods include cameras and film, ATM machines and ATM cards, and digital video disc (DVD) players and DVDs. When each of these pairs of products are used together, they provide value for the consumer; in isolation, each product is useless.

Systems goods are prone to "network effects," in which the demand for one component of the system depends on the number of other consumers who use the system as well. For example, consider the market for DVD players. If few consumers own DVD players, there will be relatively low demand for DVD movies, and since the production costs of DVDs are mainly fixed, few DVDs will be produced. The lack of available DVD movies will then keep the demand for DVD players low. If more consumers purchased DVD players, the demand for DVDs would rise, and the production of DVD movies would be more profitable. More DVD movies would become available, making DVD players more attractive to consumers and keeping demand high.

Microsoft Windows is worthless without applications, and applications such as the Microsoft Office suite are worthless without an operating system on which to run. Thus, as Judge Jackson noted in his Findings of Fact, Windows and Windows-compatible applications packages form a system. Because Windows is popular with consumers, it is profitable for software makers to develop applications for Windows, and the widespread availability of software written for it makes Windows even more attractive to consumers. In other words, Windows users are made better off when other consumers purchase Windows.

Integration May Keep Prices Low

As an integrated firm that produces both Windows and Windows applications, Microsoft has an incentive to maintain fairly low prices in both markets. If Microsoft raises the price of the Windows operating system, fewer consumers will purchase Windows, so there will be fewer customers for Windows applications. If it raises the price of application software, the value of using Windows falls, so Microsoft will see its operating systems sales decline.

It is true that Microsoft wields substantial market power, and that market power, in general, encourages firms to charge higher prices than they would if they

² Katz, Michael L. and Carl Shapiro. 1994. "Systems Competition and Network Effects." *The Journal of Economic Perspectives*. V(8), No. 2, 93-115.

faced more competition. As an integrated firm, though, Microsoft faces the strategic incentive to keep software prices lower than it would if it were broken up. Microsoft's dominant position in both markets, the operating systems market and the applications market, allows it to benefit from network effects. By selling Windows for less than its short-run profit-maximizing price, Microsoft expands the demand for its applications, allowing it to recoup any forgone revenue in the operating systems market. Likewise, Microsoft can encourage the use of its system by keeping applications software prices relatively low, attracting more consumers and increasing demand for its products. In fact, Microsoft currently appears to follow this strategy. MIT Professor Richard Schmalensee, who testified as an expert witness on behalf of Microsoft, notes that Microsoft currently charges only "a small fraction of any plausible estimate of the short-run profit-maximizing price" for its operating system.³

Consequences of a Breakup

If Microsoft is broken up into two firms, neither firm would benefit from increasing the demand for the other firm's product. The "Windows" Microsoft would no longer have any reason to restrain the price of its operating system, since it would no longer benefit from the higher applications sales sparked by low operating system prices. Likewise, the "applications" Microsoft would gain nothing by artificially lowering its prices because it cannot recover this forgone revenue through additional sales of operating system licenses. A breakup should therefore cause software prices to rise.⁴

Of course, the Microsoft breakup would prevent it from abusing its market power to destroy its rivals. If this remedy sufficiently increases competition in software markets, then the price-lowering effects of increased competitive intensity could more than offset any strategic price increases caused by the breakup. If the only effect of Judge Jackson's ruling is to create two monopolies out of one, though, the result will likely be higher prices for consumers.

.....
(Grain Outlook Continued from p. 1)
from last year and the largest corn acreage since 1959 when 4.42 million acres of corn were planted in the state.

³ Schmalensee, Richard. 2000. "Antitrust Issues in Schupeterian Industries." *The American Economic Review: Papers and Proceedings*. V(90), No. 2, 192-5.

⁴ Davis, Steven J. and Kevin M. Murphy. 2000. "A Competitive Perspective on Internet Explorer." *The American Economic Review: Papers and Proceedings*. V(90), No. 2, 184-7. The authors are professors at the University of Chicago and consultants to Microsoft.

What does this mean for the corn market for the rest of the year? There are two primary factors that will continue to impact the corn market for the rest of the summer. One is the larger than expected increase in corn acres and the other is weather. Additional acres should translate into additional bushels of corn produced this year compared to a year ago, barring any unforeseen weather event(s) that could significantly reduce yields nationwide. The dry conditions that existed in many areas of the corn belt early in the growing season have diminished. At this stage of the growing season, drought poses little threat of significant yield loss to the national corn crop. The World Ag Outlook Board (WAOB) estimates that U.S. corn production this year could exceed 10 billion bushels and the corresponding ending stocks from the 2000 crop could exceed 2.1 billion bushels. Although there is always risk of drier conditions or an early frost that could decrease yields, the greater likelihood at this point in the growing season is that the U.S. will harvest a large crop somewhere in the 9.7 to 10.0 billion bushel range. This will, in turn, continue to pressure the corn market. Cash prices in South Dakota will likely continue to stay below the market loan rate through the rest of this summer and past harvest. Pricing strategies involving the government loan program and loan deficiency payments (LDP's) will be the most probable for most corn producers. Evaluating costs of storage, the carry in the market and historical basis will be very important in any pricing strategy.

Soybeans

USDA's estimate of 74.5 million acres planted to soybeans was slightly lower than most trade estimates. On the surface, one might treat this as a bullish piece of news but this year's estimate may likely become the largest planted and harvested acreage of soybeans in U.S. history. The number of acres planted to soybeans in the U.S. has grown steadily since 1990 when 57.8 million acres were planted. The growth of soybean acres in South Dakota has been remarkable. In 1990, soybean growers in South Dakota planted 1.95 million acres compared to 4.3 million planted acres reported for the 2000 season. This will be the first time that soybean acres have equaled the acres planted to corn in South Dakota.

Table 2. Acres Planted to Soybeans (million acres)

	<u>United States</u>	<u>South Dakota</u>
2000:	74.5	4.30
1999:	73.8	4.10
1998:	72.0	3.45
Trade Est. - Range	74.8 - 76.6	N/A
Trade Est. - Average:	75.0	N/A

The World Ag Outlook Board estimated in July that the U.S. soybean crop could reach 2.94 billion bushels, which would be the largest soybean crop in history. Carryout stocks may reach as high as 480 million bushels, depending upon continued strength in the export market and the volume of domestic crush. Weather can still play a role in the size of the 2000 soybean crop in the U.S. Extreme heat during critical blooming and pod set stages of the crop could impact the bushels produced. However, at this stage of the growing season, the national soybean crop is likely to continue its development toward another very large crop, as has been the norm for the last three years. Price pressure will continue, making the government loan program a primary feature in the marketing plans of producers. In mid-July, cash prices for old crop soybeans in South Dakota were in the range of \$4.06 to \$4.39. New crop bids were quoted as \$3.75 to \$4.02, 60 cents to a dollar less than the soybean loan rate in most South Dakota counties.

Producers will need to evaluate cost of storage in combination with the use of LDP's, market loans, and other pricing strategies to enhance profit. Long term pressure on price after harvest may be likely should South America have prospects for another large crop in the spring of 2001. Long-term storage of soybeans at low prices may be more costly than any potential gains in price during the same time period. It is critical to understand carry in the market, historical basis levels, and production costs to evaluate the decision to store, or to sell and try to capture price rallies through other pricing strategies.

Wheat

Spring wheat acreage for 2000 is 15.55 million acres, slightly higher than 1999 and much higher than trade estimates (Table 3). Winter wheat acres declined from a year ago (see Table 4). When of all classes of wheat are combined, wheat acreage increased slightly from a year ago and harvested acres are expected to be 1% higher than a year ago. World wheat stocks are much lower than just a year ago, a fact that can certainly be considered positive. However, the U.S. is burdened with large domestic stocks (approximately 940 million bushels ending stocks for the 2000-01 crop year) and fierce competition in the export market. This will continue to put pressure on wheat prices throughout the rest of the year.

Table 3. Acres Planted to Spring Wheat (million acres)

	<u>United States</u>	<u>South Dakota</u>
2000:	15.55	1.75
1999:	1.35	1.75
1998:	15.57	1.95
Trade Est. - Range:	14.7 - 14.9	N/A
Trade Est. - Average:	14.8	N/A

Table 4: Acres Planted to Winter Wheat (million acres)

	<u>United States</u>	<u>South Dakota</u>
2000:	43.35	1.35
1999:	43.43	1.30
1998:	46.45	1.50

Fundamental signals at the current time point to a continued bearish market for the three commodities discussed in this article. Regardless of price direction, it will be important for producers to develop a market plan that will help them take advantage of any potential price rallies that may occur as well as to prepare for the greater likelihood of continued low or lower prices. Evaluating production costs, costs of storing grain

(physical storage and interest), carry in the market, and historical basis will be critical in evaluating any pricing strategy. Managing a strategy that involves these factors along with the choice to use the government market loan program of the LCP component will be critical in any marketing plan.

ECONOMICS COMMENTATOR

ECONOMICS DEPARTMENT

South Dakota State University

Box 504

Brookings, SD 57007-0895

Phone: (605) 688-4141

Fax: (605) 688-6386

E-mail: Stover_Perry@sdstate.edu

425 copies of this newsletter were produced at a cost of less than \$100



SOUTH DAKOTA STATE UNIVERSITY

Economics Department

Box 504

Brookings, SD 57007-0895

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