IN THE MATTER OF

WEYERHAEUSER COMPANY, ET AL.

DISMISSAL ORDER IN REGARD TO ALLEGED VIOLATION OF SEC. 5 OF THE FEDERAL TRADE COMMISSION ACT AND SEC. 7 OF THE CLAYTON ACT

Docket 9150. Complaint, Feb. 9, 1981—Dismissal Order, Sept. 26, 1985

The Federal Trade Commission has dismissed a complaint that charged Weyerhaeuser Co.'s acquisition of a corrugating-medium mill from Menasha Corp. could substantially lessen competition in the manufacture of corrugating medium in the western U.S. The Commission based its dismissal on its findings that a number of market characteristics show that the acquisition did not lessen competition.

Appearances

For the Commission: *Dennis F. Johnson, Richard A. Wolff, Richard L. Sippel* and *Timothy A. Ngau.*

For the respondents: *Tefft W. Smith, James D. Sonda* and *George A. Joseph, Kirkland & Ellis,* Chicago, Ill. and *Thomas D. Yannucci, Michael E. Baumann* and *James D. Senger, Kirkland & Ellis, Washington, D.C.*

COMPLAINT

The Federal Trade Commission, having reason to believe that the above-named respondents have undertaken an acquisition of Menasha Corporation ("Menasha") that, if consummated, would result in a violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. 18, and Section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. 45(a)(1), and that said undertaking therefore constitutes a violation of Section 5(a)(1) of the Federal Trade Commission Act, as amended, 15 U.S.C. 45(a)(1), and that a proceeding by it in respect thereof is in the public interest, hereby issues its complaint, pursuant to Section 11 of the Clayton Act, 15 U.S.C. 21, and Section 5(b) of the Federal Trade Commission Act, 15 U.S.C. 45(b), stating its charges as follows:

I. DEFINITIONS

1. For the purposes of this complaint, the following definitions shall apply:

(a) *Corrugating medium* is unbleached paperboard used for the fluted middle layer of corrugated sheets and includes both medium pro-

duced by a semichemical process and medium produced by other processes, regardless of whether the medium contains virgin woodpulp.

(b) The *West Coast market* is the eleven-state region West of the Rocky Mountains (the *West Coast region*). The states in the West Coast region are Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. [2]

II. WEYERHAEUSER COMPANY

2. Respondent Weyerhaeuser Company ("Weyerhaeuser") is a Washington corporation with its principal offices in Tacoma, Washington. It is a major integrated forest products firm engaged in the growing and harvesting of timber and in the manufacture, distribution and sale of forest products. In 1979, it had sales of $4.423 billion, end-of-year assets of $4.959 billion, contribution to earnings of $956 million and net earnings of $512 million. It has three principal forest product business segments: (1) building materials, including lumber, softwood and hardwood plywood and veneer, particleboard, hardboard, logs, chips and timber; (2) pulp, newsprint, paper and paper products; and (3) container and packaging products, including shipping containers and cartons. Weyerhaeuser is the largest producer of corrugated containers in the United States. Respondent Weybuy, Inc. ("Weybuy"), a Wisconsin corporation, is a wholly-owned subsidiary of Weyerhaeuser with its principal offices in Tacoma, Washington.

3. At all times relevant hereto, Weyerhaeuser and Weybuy have engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. 44. Weyerhaeuser transacts business in this judicial district.

III. MENASHA CORPORATION

4. Menasha Corporation is a privately-owned Wisconsin corporation with its principal offices at Highway 41, Neenah, Wisconsin. A major segment of its business is the manufacture of corrugating medium and corrugated containers. It manufactures corrugating medium for its own corrugated container plants and is a net supplier of corrugating medium to other container manufacturers. Menasha's other paper businesses include the production of solid fiber containers, paper cores and specialty packaging materials. It produces wood flour, manufactures papermaking and converting equipment and buys and sells wastepaper. Another segment of its business is the production of various plastic products, including plastic material handling containers. Menasha also owns and manages timberlands in the Pacific Northwest and owns citrus grove acreage in California. In

1979, Menasha had total sales of $239 million, net income of $11 million and end-of-year assets of $142.6 million.

5. At all times relevant hereto, Menasha engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. 44. [3]

IV. THE ACQUISITION

6. Weyerhaeuser proposes to acquire, for $66.3 million, the following assets and businesses of Menasha: (1) a corrugating medium mill in North Bend, Oregon; (2) a corrugated container plant in Anaheim, California; (3) three waste paper plants, two in Portland and one in Eugene, Oregon, and one sales office in Portland, Oregon; (4) a 710-acre unimproved mill site in North Bend, Oregon; and (5) current assets having an adjusted net book value of $8.3 million. These assets comprise almost all of Menasha's operations in the western part of the United States.

7. Menasha's non-West Coast assets and liabilities have been transferred, through a pre-acquisition reorganization, to New Menasha, Inc., a new Wisconsin corporation established to carry on Menasha's non-West Coast businesses. New Menasha therefore operates substantial businesses in the eastern half of the United States.

8. Menasha has sought to restructure a tax-free pre-acquisition reorganization and has sought a ruling from the Internal Revenue Service that the acquisition will be tax-free. Consummation of the acquisition is conditioned upon receipt of a favorable tax ruling.

V. TRADE AND COMMERCE

9. The relevant product market is the production of corrugating medium.

10. The relevant geographic market for corrugating medium is the West Coast market.

11. The production of corrugating medium in the West Coast region is substantially concentrated. In 1979, the top four firms accounted for 53.27 percent of production, and the top eight firms accounted for 85.39 percent. Menasha and Weyerhaeuser ranked third and seventh, with 13.07 percent and 7.44 percent of production, respectively. The acquisition would make Weyerhaeuser the number one firm in the region, with 20.51 percent of West Coast corrugating medium production.

12. Barriers to entry into corrugating medium production are high. Prime mill sites are in short supply; capital costs are high and increasing; long lead time is required to construct a new mill; environmental regulations increase the difficulty of new entry; and the new entrant

may encounter shortages of raw materials. In addition, high capital costs require entry on a large scale and a new entrant would have to be prepared to operate below capacity until demand grows or until market share can be taken away from competitors. The increase in capital costs over the past several years also gives new mills a higher cost structure than efficient older mills, putting new mills at a comparative disadvantage until higher cost mills subsequently are built. [4]

VI. ACTUAL COMPETITION

13. Weyerhaeuser and Menasha both are actual competitors in the production of corrugating medium in the West Coast market. Menasha produces corrugated medium on the West Coast at its mill in North Bend, Oregon. Weyerhaeuser produces corrugating medium on the West Coast at its mill in Longview, Washington.

VII. EFFECTS OF THE ACQUISITION

14. The effect of the proposed acquisition may be substantially to lessen competition in the production of corrugating medium in the West Coast market, in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. 45, in the following ways, among others:

(1) It will eliminate Menasha as a competitive entity in the production of corrugating medium in the West Coast market;

(2) It will eliminate substantial actual competition in the production of corrugating medium in the West Coast market;

(3) It will significantly increase already high levels of concentration in the West Coast market, with four-firm concentration increasing from 53.27 percent to 60.71 percent and eight-firm concentration increasing from 85.39 to 91.32 percent;

(4) It will affect the availability of corrugating medium in the West Coast market.

VIII. VIOLATIONS CHARGED

15. The effect of the acquisition of Menasha by Weyerhaeuser and Weybuy may be substantially to lessen competition or to tend to create a monopoly in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. 18, and Section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. 45.

INITIAL DECISION BY

JOHN J. MATHIAS, ADMINISTRATIVE LAW JUDGE

OCTOBER 11, 1983

PRELIMINARY STATEMENT

The Complaint in this matter was filed on February 9, 1981, and charges that the acquisition of a corrugating medium mill located in North Bend, Oregon (the "North Bend mill") from the Menasha Corporation by respondent Weyerhaeuser Company ("Weyerhaeuser") violates Section 7 of the Clayton Act and Section 5 of the FTC Act. The Complaint further alleges that [2] corrugating medium is the relevant product market (Complaint ¶ 9), and that the 11 western states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming constitute the relevant geographic market, commonly referred to throughout this proceeding as the "West Coast." (Complaint ¶¶ 1(b), 10).

At the time the Complaint was filed, Weyerhaeuser had not yet consummated the acquisition and, therefore, the Complaint proposed enjoining the acquisition, as well as seeking other forms of relief. (Complaint at 6). Because Weyerhaeuser subsequently acquired the North Bend medium mill, complaint counsel now seek divestiture in this proceeding (CB at pp. 233 *et seq.*).

On December 12, 1980, the Commission sought to enjoin the acquisition pursuant to Section 13(b) of the FTC Act. 15 U.S.C. 53(b). An evidentiary hearing was held in the United States District Court for the District of Columbia in February 1981. Portions of that record have been stipulated into evidence in this proceeding by the parties. (Stipulation and Order of January 3, 1983).

On March 25, 1981, the District Court allowed the acquisition to go forward pursuant to the terms of a hold-separate order. Specifically, the order provided that Weyerhaeuser could own and operate the mill, pending a final determination on the merits of the acquisition in this proceeding, but that it could not (1) reduce the production of the North Bend mill without cause and prior court approval, or (2) give preference to Weyerhaeuser box shops in the distribution of the North Bend mill's production. *FTC v. Weyerhaeuser Co.*, 1981–1 Trade Cas. (CCH) ¶ 63,974 at 76,049 (D.C.D.C. 1981). (WX 1415 A-G).

The Commission appealed from the District Court's order. On September 1, 1981, the United States Court of Appeals for the District of Columbia Circuit upheld the District Court's order. *FTC v. Weyerhaeuser Co.*, 665 F.2d 1072 (D.C. Cir. 1981). During the appeal process,

which included an unsuccessful petition for rehearing *en banc* by complaint counsel, proceedings in this matter were stayed.

After affirmance by the Court of Appeals, the District Court proceeded, as initially envisioned by its order of March 25, 1981, to put in place more specific terms concerning [3] Weyerhaeuser's ownership of the mill under the hold-separate order. On January 6, 1982, the District Court entered an order that implemented its March 25 order, and that order has been in operation since that time. (WX 1415A-G).

Once the appeal process was terminated, prehearing conferences were held in this proceeding. Extensive discovery occurred between the parties. In addition, third party subpoenas to various industry members were issued on behalf of both complaint counsel and Weyerhaeuser.

The hearing on the merits in this proceeding commenced on January 17, 1983, in Washington, D.C. Complaint counsel called 10 witnesses and concluded their case on January 31, 1983, with the testimony of their expert witnesses, Mr. Charles Pidano and Dr. David Kamerschen.

Respondent Weyerhaeuser began presentation of its case on February 16, 1983, in Seattle, Washington. As part of the west coast hearings, tours of Weyerhaeuser's Longview, Washington mill complex and Longview Fibre's mill complex, also in Longview, were conducted, as was a tour of Weyerhaeuser's Portland, Oregon box plant. Weyerhauser called 11 witnesses on the west coast, including 5 Weyerhaeuser executives and 6 third party witnesses. The west coast hearing ended on February 23, 1983.

Weyerhaeuser resumed presentation of its case in Washington, D.C. on March 14, 1983. During this phase of the hearings, Weyerhaeuser called 6 third party fact witnesses and concluded its case with the testimony of 2 expert witnesses: Mr. Thomas Clephane and Dr. Yale Brozen.

Complaint counsel presented no rebuttal testimony or evidence. Accordingly, the hearings were concluded with the record left open for purposes of admitting certain exhibits, correction of the transcript, identifying *in camera* portions of the record, and other miscellaneous matters. The record was closed on May 16, 1983.

In all, a total of 36 witnesses testified in this proceeding, 29 through live testimony at this proceeding and 7 through the stipulated introduction of the transcript of their testimony before the District Court in the Section 13(b) trial, generating a total transcript of nearly 4,000 pages. Approximately 800 exhibits have been received into evidence. [4]

This Initial Decision is based upon the entire record, including

proposed findings of fact and conclusions of law and supporting memoranda filed by the parties, as well as their replies. I have also taken into account my observation of the witnesses who have appeared before me and their demeanor. Proposed findings not herein adopted, either in the form submitted or in substance, are rejected either as not supported by the evidence or as involving immaterial matters. Any motions appearing on the record not heretofore or hereby ruled upon either directly or by the necessary effect of the findings and conclusions made in this Initial Decision, are hereby denied.

The findings of fact include references to the supporting evidentiary items in the record. Such references are intended to serve as guides to the testimony and exhibits supporting the findings of fact. They do not necessarily represent complete summaries of the evidence supporting each finding.[1] [5]

To summarize my findings and conclusions hereinbelow, I find that complaint counsel have failed to prove that the effect of respondent's acquisition may be substantially to lessen competition or to tend to create a monopoly. Accordingly, I order that the complaint be dismissed.

FINDINGS OF FACT

I. RESPONDENT WEYERHAEUSER AND THE ACQUISITION

1. Weyerhaeuser is a diversified forest products company headquartered in Tacoma, Washington and incorporated in the State of Washington. Weyerhaeuser has extensive international operations in the following areas: (1) timberlands and raw materials, which encompass the management, harvesting and distribution of timber, logs and wood chips; (2) wood products, including timber, softwood and hardwood, plywood and veneer, particleboard, and hardboards; (3) fiber products, such as containerboard, pulp, paperboard, paper, newsprint, containers and packaging; (4) real estate and home building; and (5) various diversified businesses, including personal care products, nursery products, chemicals and aquaculture. (WX 1113 H, N, R, V, Y, A2). Weyerhaeuser markets its products worldwide. In 1981, it had

[1] The following abbreviations have been used:

Tr. - Transcript, preceded by the name of the witness and followed by the page number.
CX - Complaint Counsel's Exhibit, followed by its number and the referenced page(s).
RX - Respondent's Exhibit followed by its number and the referenced page(s).
CF - Complaint Counsel's Proposed Findings.
CB - Complaint Counsel's Brief In Support of Proposed Findings.
RF - Respondent's Proposed Findings.
RB - Respondent's Memorandum of Law In Support of Proposed Findings.
CRB- Complaint Counsel's Reply to Respondent's Proposed Findings and Brief.
RRB- Respondent's Reply to Complaint Counsel's Proposed Findings and Brief.

net sales of $4.5 billion and total assets of $5.7 billion. (WX 1113 C, A8).

2. Weyerhaeuser has three principal forest product business segments: (a) Building materials (including lumber, softwood and hardwood plywood and veneer, particleboard, hardboard, logs, chips and timber), with net sales in 1981 of $2.7 billion; (2) Pulp, newsprint, paper and paperboard products, with net sales in 1981 of $1.5 billion; and (3) Paperboard and packaging products, including containerboard[2] and shipping containers, **[6]** with net sales in 1981 of $939 million. (Complaint and Answer ¶ 2; WX 1113A–2, A–21, A–31; Waechter Tr. 1621–22).

3. Weyerhaeuser is a leading integrated producer of containerboard and corrugated boxes. (WX 1113; Findings 4–6, below). Containerboard mills are large, capital-intensive facilities. (Waechter Tr. 1635; Locke Tr. 978).

4. Prior to the acquisition here in issue, Weyerhaeuser operated three medium mills in the United States, located in Longview, Washington; Valliant, Oklahoma; and Plymouth, North Carolina. (CX 651, Stip. 1).

5. Weyerhaeuser also operates three liner mills in the United States, located in Springfield, Oregon; Valliant, Oklahoma; and Plymouth, North Carolina. (CX 651, Stip. 2).

6. Corrugated boxes are manufactured in shipping container plants ("box plants" or "box shops"). Weyerhaeuser operates approximately 30 box plants in the United States. On the west coast, it operates 9 box plants which are located in Alameda, Anaheim, Colton, Modesto, Salinas and Santa Paula, California; Olympia and Yakima, Washington; and Portland, Oregon. (CX 651, Stip. 3, 8). The Anaheim box plant was obtained by Weyerhaeuser in the 1981 acquisition discussed below, but is not at issue in this proceeding. (CX 651, Stip. 8; CB pp. 231–39).

7. During 1981, Weyerhaeuser acquired the following assets from Menasha Corporation:[3] (1) a medium mill located in North **[7]** Bend,

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[2] Containerboard refers to two different products: corrugating medium ("medium") and linerboard ("liner"). (CX 651, Stip. 42). These two products are the raw materials used to manufacture corrugated shipping containers ("corrugated boxes" or "boxes"). (CX 651, Stip. 43, 47). Medium is the inner fluted portion of the wall of a corrugated box, while liner is the flat facing comprising each side of the wall. (CX 651, Stip. 15, 41; Johnson Tr. 404; Countryman Tr. 1044.)

[3] Menasha Corporation is a Wisconsin corporation with its principal offices at Neenah, Wisconsin. A major portion of its business is the manufacture of corrugating medium and corrugated containers (Complaint and Answer, ¶ 4). Prior to the acquisition, Menasha Corporation owned and operated the North Bend medium mill that was acquired by Weyerhaeuser, and a second medium mill in Otsego, Michigan, which it retained. (CX 651, Stip. 70; CX 332 B, C & E).

Weyerhaeuser West Coast, Inc., a wholly-owned subsidiary of Weyerhaeuser with its principal office in Tacoma, Washington, is the corporation surviving the merger of Weybuy, Inc. (a Weyerhaeuser subsidiary formed solely to facilitate this acquisition) into the acquired Menasha Corporation. The complaint originally named Weybuy as a co-respondent. By order of February 1, 1982, Weyerhaeuser West Coast, Inc., was substituted for Weybuy to reflect the merger and change of name.

Oregon ("North Bend mill"); (2) a 710-acre unimproved mill site located in North Bend, Oregon; (3) three wastepaper collection facilities, two in Portland, Oregon, and one in Eugene, Oregon (and one sales office in Portland, Oregon) which collect wastepaper, principally old corrugated containers, to be recycled as a raw material in the manufacture of medium and other types of paper; (4) the box plant located in Anaheim, California; (5) an interest in Valley Crate Corporation which markets some of the corrugated containers produced at the Anaheim plant; and (6) $8.3 million of net working capital. (CX 651, Stip. 8). This acquisition was pursuant to an Agreement and Plan of Merger and Reorganization dated December 24, 1980 by which Weyerhaeuser acquired a corporate entity owned by Menasha Corporation's shareholders in exchange for approximately 2 million shares of Weyerhaeuser stock. (JX 25A-A60).

8. The Complaint challenges only the acquisition of the North Bend mill. (Complaint ¶ 9, 13; CB pp. 231–39). (*See also, FTC v. Weyerhaeuser Co.*, 665 F.2d 1072, 1074 (D.C. Cir. 1981).

II. COMMERCE

9. Weyerhaeuser, Menasha, and Weyerhaeuser West Coast, Inc. were, at the time of the acquisition of the North Bend mill, and continue to be, engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and Section 4 of the Federal Trade Commission Act, as [8] amended, 15 U.S.C. 44. (Complaint and Answer ¶¶ 3, 5; CX 651, Stip. 76).

III. MARKET OVERVIEW

A. *The Forest Products Industry*

10. Many of the firms in the containerboard industry are, like Weyerhaeuser, integrated forest products companies that manufacture and market a broad line of products. (Cassidy Tr. 734–35; Locke Tr. 910–11; Price Tr. 2187; Diforio Tr. 2096; Perry Tr. 2312; Brown Tr. 2442–43).

11. The operations of forest products firms frequently "are international in scope," and "a number of the companies are major exporters," with "some . . . hav[ing] operations in Canada" and other foreign countries. (Clephane Tr. 2621; *See also* Waechter Tr. 1643, 1729; CX 147 Z2–Z15 IC).

12. In general, forest products companies have integrated operations in (1) timber and raw materials management, (2) primary con-

B. *Timberlands and Raw Materials Management*

13. Timberland operations are concerned with managing a company's timber assets, including the long-term replenishment of those assets, and insuring that the basic raw materials for downstream products are provided in a streamlined and efficient fashion. (Waechter Tr. 1624–25; WX 1113H-L).

14. For purposes of this proceeding, timber can be roughly classified as being either hardwood or softwood. Softwoods are found mainly in the south in the form of southern pine, and in the Pacific Northwest in the form of Douglas fir. (Brown Tr. 2515). Hardwoods are abundant in the north central portion of the United States and are heavily mixed in with southern pine softwoods in the southeast, but are relatively scarce in the Pacific Northwest. (Brown Tr. 2470; CX 147 Z62–Z63 IC).

15. Weyerhaeuser owns timber throughout the country, primarily in the Pacific Northwest, and in the southeast portion of the United States running from the Carolinas through Oklahoma and Arkansas. (Waechter Tr. 1628–29).

16. Numerous companies besides Weyerhaeuser own substantial timberlands in various parts of the country. For instance, [9] International Paper, which is one of the largest private timber owners in the United States, has the bulk of its timber in the southeast, as does Continental Forest. (Brown Tr. 2443; Perry Tr. 2312–13). On the other hand, Owens-Illinois and Champion International have substantial holdings of hardwood timber in the north central portion of the United States in states such as Wisconsin, Minnesota, and Michigan. (Cassidy Tr. 773–74, 839; Diforio Tr. 2098; *See also* WX 1702 Y-Z, A9–A12, A14–A17).

C. *Primary Facilities*

17. Primary facilities refer to mills that produce basic products derived from a company's timber base. These operations are basically divided into two broad product categories: wood and fiber. On the wood products side, the operations include saw mills, plywood mills, and other lumber producing facilities. (Waechter Tr. 1625, 1632). The fiber side includes facilities for the production of containerboard, market pulp, newsprint, fine paper and other similar types of products. (Waechter Tr. 1625). In total, Weyerhaeuser has 66 primary facilities, with 53 on the wood products side and 13 on the fiber side. (*Id.*).

18. The raw material for a wood products primary facility is harvested timber or logs, which are cut up into lumber or plywood. For fiber products, the raw material is sometimes the residual wood chips

that result from wood product manufacturing. Otherwise, whole logs may be cut up or "chipped" expressly for use as the raw material needed for the fiber mill. (Presson Tr. 1538; Locke Tr. 967).

19. Primary mills typically are large facilities that consume vast amounts of raw material. Weyerhaeuser's Valliant, Oklahoma mill, for instance, produces "3,000 tons of containerboard a day" and will consume "something in excess of a million tons of wood chips" annually. Weyerhaeuser's Plymouth, North Carolina facility produces "in excess of 2,000 tons a day of fiber products" and also consumes "close to a million tons of wood chips a year." (Waechter Tr. 1635).

D. *Secondary Facilities*

20. Secondary operations or facilities refer to plants that typically refine or further convert basic wood or fiber products provided by primary mills. Thus, Weyerhaeuser's box plants take containerboard manufactured by Weyerhaeuser's primary fiber mills and convert it into boxes. (Presson Tr. 1539). **[10]**

E. *The Relationship Of Timber To Converting Operations*

21. For any forest products company, timber plays a central role. Indeed, Weyerhaeuser views its timber as its basic asset. (Waechter Tr. 1631). The desire to maximize the value of their timber holdings has led forest product firms to develop and expand primary and secondary facilities. Weyerhaeuser's initial involvement in the containerboard industry was a result of its "desire to utilize the residual flow of wood chips" stemming from its other operations. (Waechter Tr. 1645). Similarly, in planning new primary facilities, it seeks to match "the raw material flow available in a vicinity . . . ." (Waechter Tr. 1641). Accordingly, forest products companies generally locate their primary mills in the areas where their timber holdings are located. (Waechter Tr. 1641; Cassidy Tr. 839; Perry Tr. 2313; Countryman Tr. 1069, 1096; Locke Tr. 969; Brown Tr. 2444).

IV. CONTAINERBOARD PRODUCTION

A. *General*

22. Corrugating medium (often referred to simply as "medium") is a wood fiber-based paper product that is used almost exclusively to form the fluted inner layer of corrugated board, which in turn is cut into corrugated sheets which are used almost exclusively in the manufacture of corrugated containers. (CX 651, Stips. 14, 15, 43; CX 13A; CX 25I; CX 45P, X; Waechter, CX 64Z58; CX 186K; CX 190B; Hudson, JX 8J; Johnson Tr. 404–05; Campbell Tr. 645; Countryman Tr. 1044;

side the manufacture of corrugated containers.[4] (Waechter Tr. 1652, 1754; Johnson CX 63Z103; Presson CX 65Z56–Z57; CX 167A).

23. Corrugated board typically consists of two sheets of linerboard (a different wood fiber-based paper product) with a fluted sheet of medium in between. (CX 651, Stip. 42; Johnson [11] Tr. 404, 409; Wollenberg Tr. 527–28; Campbell Tr. 645; Countryman Tr. 1044; CX 190B).

24. Linerboard (sometimes referred to simply as "liner") is a wood fiber-based paper product that is used as the flat outer facings of corrugated board. (Johnson Tr. 404, 409; Wollenberg Tr. 527; Campbell Tr. 644; Countryman Tr. 1044; CX 651, Stips. 38, 41, 42; CX 25I; CX 190B). Linerboard also is used for a number of other applications, such as fiber drums, carrier stock, and some folding cartons. (Waechter Tr. 1652, 1754–55; see WX 1334K, L). Both medium and linerboard are sometimes referred to generically as "containerboard." (CX 651, Stip. 42; Johnson Tr. 464).

25. Corrugated containers (often referred to as "corrugated boxes" or just "boxes") are strong, lightweight and relatively inexpensive shipping containers that are made from corrugated sheets and that are produced in a variety of shapes and sizes. (CX 44D, Z9–Z28; Lamm Tr. 1004, 1015; Nordstrom Tr. 1127, 1146). They are used for packaging and shipping a wide variety of products, such as canned and bottled goods, agricultural products, meats and other foods, clothing, drugs, appliances, and numerous other products. (CX 44D, E, Z; CX 186J; CX 13A-B; CX 109Z1; Johnson Tr. 404–05; Wollenberg Tr. 528–29).

26. Corrugating medium is designed to provide corrugated board (and hence, corrugated boxes) with stiffness, rigidity, crush strength, and compression strength. (CX 25I; CX 190S, Z24; Johnson Tr. 405, 406; Wollenberg Tr. 528, 533, 547; Campbell Tr. 651; Cassidy Tr. 779–81). Crush strength refers to the ability to keep the two sheets of linerboard apart to form a rigid structure (Cassidy Tr. 779; Johnson Tr. 405; Wollenberg Tr. 528), while compression strength refers to the top to bottom stacking strength. (Johnson Tr. 405; Cassidy Tr. 780).

27. Medium must weigh at least 26 pounds per thousand square feet and be at least nine thousandths of an inch thick[5] in order to meet the requirements of Rule 41 of the Uniform Freight Classification (for rail) and Item 222 of the National Motor Freight Classification (for trucks), which prescribe [12] carrier requirements for corrugated con-

[4] "Off-grade" medium may occasionally be used for wrapping or padding purposes, but such uses are *de minimis*. (Johnson Tr. 405).

[5] Thus, medium of this thickness is sometimes referred to in the industry as "nine-point" or ".009." (Wollenberg Tr. 530).

tainers.[6] (CX 29I; CX 44Z39–Z54, Z64–Z68; CX 109Z182; CX 190Z32; Johnson Tr. 409; Wollenberg Tr. 530; WX 1201; WX 1202). In addition, medium must meet certain established specifications, including "concora," which is the industry's measure of crush strength. (CX 186Z11; CX 44X, Z29–Z30; WX 1105H-J; WX 1104A; CX 190S, Z24, Z26; Johnson Tr. 407–08; Wollenberg Tr. 530–31).

28. Linerboard, in contrast to medium, is designed to provide corrugated board with burst strength and tear strength rather than with stiffness, rigidity, crush strength or compression strength. (Johnson Tr. 409; Wollenberg Tr. 531–33; Cassidy Tr. 780–81). Linerboard must also meet certain requirements established by Rule 41 and Item 222. (CX 44Z39–Z54, Z63–Z68; Johnson Tr. 409; CX 107G). In particular, linerboard must meet certain established specifications with respect to "mullen," which is the industry measure of burst strength. (Johnson Tr. 409–10; Wollenberg Tr. 533; CX 44Z39). Since linerboard is used for the outer facings of corrugated boxes, it also is designed to have a smooth surface and desirable printing characteristics. (Campbell Tr. 651).

29. Medium is produced in standard "basis weights," which are measured in pounds per thousand square feet of product. (CX 190Z21; CX 651, Stip. 56; Cassidy Tr. 775). The most common basis weight for medium is 26 pounds per thousand square feet; the second most common is 33 pounds. (CX 651, Stip. 33; Johnson Tr. 437–38; Cassidy Tr. 775–76; Countryman Tr. 1044–45; Presson Tr. 1541, 1610; Diforio Tr. 2120; Perry Tr. 2376; CX 190S; CX 1B; CX 26V). Other weights (such as 36 pound or 40 pound) and types (such as "wet strength" medium that is specially treated for moisture resistance for use under high humidity conditions) (Cassidy Tr. 745) are generally considered to be specialty items. (Countryman Tr. 1044; Presson Tr. 1541; Diforio Tr. 2120). According to the American Paper Institute ("API"), an industry trade association, there were approximately 5.7 million tons of medium produced domestically during 1981. (WX 1334H). Of this amount, 79.5% was classified as "regular" 26 pound, 12.7% was "regular" 33 pound, 3.7% was other "regular" grades, [**13**] and 4.1% was classified in various "wet strength" categories. (Calculated from WX 1334H).

30. Linerboard is also produced in standard basis weights. (*E.g.*, CX 190Z21). The most common basis weight for linerboard is 42 pound, which according to API accounts for about one-half of total domestic linerboard production. (WX 1334E). The next most common weight is 69 pound, which accounts for nearly 22% of total linerboard production. (WX 1334E).

[6] Failure to comply with the requirements could subject a shipper to substantial penalties, such as increased transportation charges, refusal of shipments by the carrier, or denial of freight damage claims. (CX 44Z–32).

B. *Medium Production*

31. The production of medium and liner is a continuous process that consists of: (1) the procurement of raw materials; (2) the preparation of a pulp, which is then formed, pressed and dried into a sheet of medium or liner; and (3) a series of finishing operations that meet the individual customer's particular needs.

32. There are two basic types of medium: semichemical and recycled. (CX 651, Stip. 16). Semichemical mills differ from recycled mills primarily in the type of raw material that they use for the pulp or "furnish" that is converted into medium on the paper machine. Semichemical mills predominantly use a "virgin" or wood fiber as their raw material, while recycled mills use exclusively recycled material. (CX 651, Stip. 19, 22). However, most semichemical mills use some proportion of recycled fiber with virgin fiber in making semichemical medium. (CX 651, Stip. 19, 21).

33. Semichemical medium is produced primarily from hardwood because the relatively short fibers found in hardwood provide medium with its needed rigidity and crush strength. (CX 29D; CX 45X; CX 48Z35; CX 109Z177; CX 137B IC; CX 190Z14; Johnson Tr. 405, 406; Wollenberg, Tr. 538, 547; Campbell Tr. 650; Cassidy, Tr. 742; Brown Tr. 2470; CX 45X). Weyerhaeuser's mill at Longview, Washington, along with Willamette's mill at Albany, Oregon and Boise Cascade's mill at Wallula, Washington, are unusual in the industry because they use a special process (called the "two-stage vapor" or "TSV" process) to make semichemical medium pulp from softwood (CX 186V, Z11; CX 26G, H; WX 1737 A, B) because hardwood is not as plentiful in the Pacific Northwest as it is in the South and the Midwest. In general, hardwood is obtained from deciduous trees that shed their leaves, such as oak or alder; softwood is obtained from evergreen (needle-bearing) trees, such as pine and Douglas fir. (Wollenberg Tr. 538, 546). **[14]**

34. A primary raw material used in semichemical medium, especially in the northwest, is "residual" chips obtained from nearby or adjacent "wood products operations" such as lumber or plywood mills. (Presson Tr. 1538). In addition to residual chips, whole logs may be "chipped" to provide the raw material needed for semichemical production. (Johnson Tr. 411–12, 415; Locke Tr. 967; Cassidy Tr. 760).

35. While medium producers generally locate their facilities near their own timberlands (Finding 21), producers must still rely on outside sources to procure and deliver a substantial portion of either the wood chips or pulp wood used by the mill. (Johnson Tr. 446; Locke Tr. 913, 967–68; Brown Tr. 2456).

36. Because semichemical medium mills typically rely on outside

sources for at least half of their wood chip needs, they frequently spawn a network of independent businessmen or local contractors who procure and deliver these wood chips to the mill. These suppliers operate low-margin businesses that are heavily dependent on the local mill's orders, and, at least in some cases, rely on the mill to obtain financing for their operations. (Johnson Tr. 446–47, 480).

37. As the name suggests, recycled medium mills use recycled materials as their raw material. These materials may be in the form of box plant or "kraft" clippings, which refer to the scraps of containerboard collected at box plants from trimming and cutting containerboard as it is converted into boxes. (Campbell Tr. 652–53, Johnson Tr. 407, 426).

38. The largest source of recycled material is old corrugated containers ("OCC"). OCC is typically procured from a large number of sources by independent operators or dealers who supply the mill. (Countryman Tr. 1063–64).

39. As noted, many semichemical mills also use recycled fiber as part of their furnish. However, since semichemical medium mills tend to be located in timber areas (CX 651, Stip. 35), they have procurement systems for OCC that cover a wider area than do those of recycled mills located near metropolitan areas. (Countryman Tr. 1099–1100; Locke Tr. 974). For instance, MacMillan Bloedel's new semichemical medium facility in Pine Hill, Alabama draws OCC from six states. (Locke Tr. 974). **[15]**

40. Because of the difference in their raw materials, semichemical and recycled mills have different processes for converting the raw material into the pulp or "furnish" used to form a sheet of medium. In a semichemical mill, the wood chips undergo a chemical cooking process that breaks down the chips into individual wood fibers. While there are a number of different chemical processes used to cook wood chips, basically the chips are cooked at a high heat with various chemicals in enormous vessels called digesters. (CX 651, Stip. 25; Johnson Tr. 417–20; Cassidy Tr. 760–61).

41. While the production of semichemical medium requires the use of a pulp mill to transform wood chips into pulp, a recycled mill employs a "hydropulper," which is somewhat akin to a large blender or garbage disposal, to break down the recycled materials into a pulp or furnish for the paper machine. (CX 651, Stips. 24, 26, 27).

42. In recent years, there have been a number of technological developments, such as the use of "reverse cleaners," that improve the quality of OCC that goes into the hydropulper. (Countryman Tr. 1099; Waechter Tr. 1694; Brown Tr. 2464; Justus Tr. 2261).

43. Semichemical mills that use recycled material as part of their

furnish have both a chemical pulping system for wood chips and a hydropulper for recycled materials. (Johnson Tr. 425–26).

44. Recycled and semichemical mills have essentially identical operations in converting their different pulps into sheets of medium. (CX 651, Stip. 28). At either type of mill the pulp is fed onto the paper machine through a device called a "headbox." (Johnson Tr. 427). The paper machine itself is a very large piece of equipment the length of a football field and two stories high, and can be designed to manufacture a variety of papers. (CX 651, Stip. 29, 31).

45. The production of medium is a continuous process, with a steady flow of wood pulp slurry fed onto a long, high-speed wire mesh (the fourdrinier), which propels the wood or recycled pulp slurry into a large press at rates of up to a half mile per minute. Virtually all paper machines employ a fourdrinier forming section. (CX 651, Stip. 28). From the press, the pulp emerges as flat paper to be further pressed and dried through a series of large, rapidly revolving heated metal cylinders called "dryers." The medium is run from these cylinders onto rolls at **[16]** a rate of up to 20 miles of paper per hour. These large rolls, which can weigh up to 30,000 pounds or more, are then trimmed into smaller rolls equal to the widths ordered by a customer. (CX 651, Stip. 30).

C. *Mill Economics*

46. Semichemical medium mills are typically large, capital intensive facilities. The paper machine itself is a massive piece of equipment, and the pulping facility at a semichemical mill consists of several large digesters and boilers, a chemical recovery system and extensive raw material handling operations. (CX 651, Stip. 29; CX 649; CX 650A-P). The minimum efficient size of a new semichemical mill is presently approximately 600 tons per day. (Locke Tr. 925).

47. Recycled medium mills are usually smaller than semichemical mills, primarily because they have a less extensive raw material handling system and no digesters and chemical recovery operations. (Johnson Tr. 492–93). Nevertheless, they are still capital intensive operations that also benefit from economies of scale. While the evidence varies somewhat, the current minimum efficient size of a recycled mill would be approximately 300 tons per day to 500 tons per day. ([***]* Countryman Tr. 1082–83).

48. In all, there are a total of 54 medium facilities throughout the United States: 33 are semichemical and 21 are recycled. There are 11 companies operating 13 medium mills on the west coast. (WX 1351A; WX 1354A part IC). Of the 13 medium mills on the west coast, 7 are semichemical and 6 are recycled. (WX 1351A). These west coast mills

* Throughout this document, [***] refers to *in camera* material that has been excised.

range in capacity from 69 tons per day to 495 tons per day. (WX 1354A part IC).

49. Because both recycled and semichemical mills have high fixed costs of operation, producers have strong incentives to maximize production. (Cassidy Tr. 875; Locke Tr. 978; Countryman Tr. 1107; Presson Tr. 1603; Waechter Tr. 1713; Brown Tr. 2482; Duffie JX 3F; Williscroft JX 4J).

50. Output reductions, either shutdowns or slowdowns, penalize a producer because they lower the number of tons or units over which the mill's costs are defrayed. All fixed costs, including depreciation and interest, continue, as do many of the variable costs as well. (Johnson Tr. 498). Continuing variable costs may include the mill's labor force and the cost of raw materials (some mills have "take-or-pay" contracts that [17] require the mill to purchase raw materials regardless of whether they are needed.) (Wollenberg Tr. 616–17; Locke Tr. 944; Johnson Tr. 498).

51. Mill shutdowns may also have adverse long-term effects on a mill's relationship with its raw material suppliers. (Johnson Tr. 480–81; Locke Tr. 975; Countryman Tr. 1065, 1099).

52. Another category of costs associated with a shutdown is the cost of taking the mill down and starting it back up into production. Any shutdown that results in the boiler and chemical recovery systems becoming idle, or the mill becoming "cold" is quite expensive. (Locke Tr. 962 IC; Campbell Tr. 687–88; Brown Tr. 2475 IC, 2465, 2482).

53. Slowdowns in production are similarly expensive and uneconomical. A slowdown both increases costs and reduces output. Therefore, containerboard mills make every effort to avoid such slowdowns under normal conditions. (Johnson Tr. 496–97; Cassidy Tr. 819; Countryman Tr. 1107; Brown Tr. 2483–84; Presson Tr. 1601–02; Williscroft JX 4 J-K).

D. *Mill Optimization*

54. Virtually all medium is consumed by individual box plants. (CX 651, Stip. 43). Those box plants have diverse needs in terms of the weight, width, grade and other specifications of the medium they convert into boxes. Accordingly, producers engage in sophisticated and complex scheduling in order to maximize production while, at the same time, tailoring that production to the particularized needs of various box plants. (Findings 55–69, below).

55. Orders for medium regularly vary with respect to a wide range of factors. To begin with, medium must be produced in accordance with a number of specifications. (Presson Tr. 1544–45; *See also* WX 1105 A-R; WX 1106 A-B; Wollenberg Tr. 530–33). Each of these specifi-

by Mr. Edward Locke of MacMillan-Bloedel, "[y]ou can specify the burst strength, tear strength, the tensile strength, the compression strength, the rate of air passage through a sheet. Any of these are quite common. Some people change the basis weights specifications . . . . All of these have to be translated in the process into a set of running conditions that may determine pulping conditions, a different time to pulp it, and may take a different amount of refining." (Locke Tr. 929). These changes in specification by customers may also alter other steps in the production process. (*Id.*). [18]

56. Medium orders also vary by basis weight, which refers to weight per thousand square feet ("msf"). (CX 651, Stip. 56). Medium is produced in the following weights: 26 pound, 31 pound, 33 pound, 36 pound, 40 pound, 52 pound and even heavier weights (Johnson Tr. 438; Countryman Tr. 1044; WX 1153 V-A3 IC; WX 1508 Z1). While the most common medium basis weights are 26 pound and 33 pound (CX 651, Stip. 33), there is a steady demand for other weights as well. (Waechter Tr. 1653; Presson Tr. 1610–11).

57. Medium may also be distinguished by being "functionally treated." (Presson Tr. 1541; 1611). For instance, medium may be "wax impregnated" or possess "wet strength" which results in the medium being able to resist moisture. Such grades occur in different weights, and are required by box plants to make boxes for goods that must be insulated from moisture. (*Id.*).

58. There are also types of medium that possess a "higher strength" than do normal grades of medium of the same weight. (Presson Tr. 1611). A notable example is a proprietary grade of medium manufactured by Stone Container called "Super Stone Cor." (Price Tr. 2195). Due to its higher strength, "Super Stone Cor" allows you to "reduce the liner weights" and, therefore, "reduce total fiber in a particular box and maintain box performance." (Price Tr. 2195).

59. Orders particularly vary on the basis of roll width. There is no standardized width for medium rolls since it "is cut into widths during the production process to meet the particular needs of the customer." (CX 651, Stip. 78). Mr. Timothy Campbell of Southwest Forest stated that a "typical box plant . . . will have as many as 20 different sizes of medium in their inventory." (Campbell Tr. 690). Likewise, Mr. Fred Cassidy of Owens-Illinois testified that "[b]ox plants order [medium] in various widths, and they will vary that width by up to an eighth of an inch, 85–1/8, 75–7/8 inches wide, like that. So they order a lot of different widths." (Cassidy Tr. 877). Mr. Clark Johnson of Virginia Fibre also testified that there was "no" standardized width of medium. (Johnson Tr. 497).

60. In addition to trim widths and grades, box plants may "specify either the number of rolls or tons of each inventory item, and also

specify the roll diameter . . . . They can specify specific stenciling or packaging requirements as well as timing requirements. So there are a variety of customer requirements [**19**] other than just the individual grade and width." (Presson Tr. 1543; *See also* Johnson Tr. 431).

61. Because orders for medium can vary on many factors, it is generally manufactured to fill specific customer orders. It is not produced for or sold out of inventory. (Wollenberg Tr. 577, 579; Campbell Tr. 690–91; Presson Tr. 1543–44, 1547; WX 1153 A-A4 IC).

62. Even if a producer could predict customer orders, most mills simply do not possess the physical space to house any significant inventory of medium. As explained by Mr. Presson, "[w]e basically don't have any inventory space at the mills." (Presson Tr. 1547). Mr. Fred Cassidy testified that of Owens-Illinois' four containerboard mills throughout the United States "[p]robably Orange [Texas] has more than anyone and maybe they can store 100 tons . . . . [W]e have no real capacity to store paper in our mills. We have no mill warehouses." (Cassidy Tr. 877; *See also,* Johnson Tr. 497).

63. Medium is particularly difficult to inventory since, unlike liner, it is more perishable, and therefore, unable to be stored outdoors. (Locke Tr. 947).

64. Even those mills with warehouses have very limited capacity for storage of finished product. For instance, MacMillan Bloedel's new Pine Hill, Alabama liner-medium complex has a total inventory capacity for *both* liner and medium for "roughly four or five days of production," or approximately for two days of medium production. (Locke Tr. 947).

65. Nor can a producer use nearby box plants that it owns to build up an inventory. Producers seek to keep the "lowest possible inventory level." (Presson Tr. 1549). The problem with large inventories at box plants was described by Mr. Michael Sanzone, General Manager of Weyerhaeuser's Portland, Oregon box shop: "It is extremely expensive when you talk in terms of inventory of roll stock, it's very easy to have over a million dollars tied up in roll stock inventory . . . . Basically . . . as it sets on the floor it's dead dollars." (Sanzone Tr. 1781).

66. Medium's customized production coupled with the lack of any inventory capacity significantly complicates the producer's task of optimizing production or to "minimize the total delivered costs and at the same time satisfy customer requirements." (Presson Tr. 1551). [**20**]

67. A primary example of mill optimization concerns the producer's ability to "trim its machine" efficiently. As explained by Mr. Presson, a medium machine that has the ability to make a sheet of medium 200

80-inch roll of medium will have 20 inches of trim loss or waste in the production of that sheet, whereas an order for two 96-inch rolls results in only 8 inches of waste. (Presson Tr. 1552–53). Accordingly, producers strive to group odd sized orders together to lower trim loss and to maximize production of trim widths that result in very little trim loss. To this end, Weyerhaeuser uses trim management reports, which list trim widths for *all* of its customers, and then groups them in the most efficient manner for production. (Presson Tr. 1587–89; WX 1146A-B; WX 1147A-C).

68. Frequent grade changes also increase production costs. For instance, Mr. Cassidy of Owens-Illinois explained that "we would like to stay on the same grade all the time. Every time I change grades . . . I lose about ten tons." (Cassidy Tr. 821–22; *See also,* Presson Tr. 1555–56).

69. Thus, some companies schedule production on a system-wide basis, in order to maximize the production and efficiency of each mill. (Perry Tr. 2378; Presson Tr. 1551, 1557; Brown Tr. 2466 IC). Such efficiencies are also accomplished through exchanges with mills of other companies, as will be more fully explained below. (Findings 93–95).

E. *Liner Production*

70. Approximately 97 percent of the liner produced in the United States results from the kraft (sulphate) chemical pulping process; hence, the term "kraft liner." (CX 622F). Liner mills use wood chips derived principally from softwood timber, such as Douglas fir and southern pine. (Brown Tr. 2454; Johnson Tr. 409). Liner is produced in mills similar to, but typically larger than, semichemical medium mills, and the minimum efficient size for new linerboard mills is approximately 1,000 tons per day. (WX 1337D).

71. There are 53 liner mills in the United States, of which 44 use the kraft manufacturing process and 9 use recycled materials exclusively. Of the 13 liner mills located on the west coast, 10 produce kraft liner and 3 produce recycled liner. (WX 1351A). These west coast mills range in capacity from 65 tons per day to 1830 tons per day. (WX 1356A). [**21**]

72. The pulp and pulping process for making linerboard is similar, but somewhat different from the pulp and pulping process for medium. The pulp used in linerboard is produced primarily from softwood chips because the longer softwood fibers provide the tear strength and burst resistance necessary for linerboard. (CX 29B; CX 45X; CX 107G; CX 109Z175; CX 190T; CX 651, Stip. 39; Johnson Tr. 409; Wollenberg Tr. 546–47; Campbell Tr. 648, 651). The chipping, debarking, and chip screening steps are similar for both products. (CX 190Z13). From the

cooking process on, however, the two processes differ. (CX 190Z13, Z1–Z2; CX 186U, Z10; Cassidy Tr. 763).

73. As noted above, most linerboard pulp is produced through the "kraft" (sulfate) process.[7] (Wollenberg Tr. 527, 547; Campbell Tr. 647; CX 186V; CX 190Z2–Z3, Z4). The digesters used to produce kraft pulp are different from the digesters used for semichemical pulp. (Wollenberg Tr. 549). The chemical liquor used in the kraft process is a mixture of sodium hydroxide and sodium sulfide. (CX 186V; Campbell Tr. 651). The process for producing kraft linerboard pulp is a "full chemical" process, *i.e.*, the lignin is fully dissolved by chemical means without further mechanical refining (Johnson Tr. 420; Wollenberg Tr. 547), and the yield (ratio of output volume to input volume) is only about 50%. (CX 29B; CX 109Z175; CX 186V; Campbell Tr. 649; Cassidy Tr. 765). [22]

74. Fourdrinier paper machines used to produce linerboard also differ somewhat from those used to produce medium. (Johnson, CX63Z96; Wollenberg Tr. 552–53; Campbell Tr. 651; Countryman Tr. 1045–46). A linerboard machine uses a second headbox, through which a finer grade of fiber solution is laid on top of the slurry that has been fed onto the wire mesh from the first headbox, in order to create a uniform surface that is suitable for printing and, sometimes, to put special coatings on the linerboard. (Wollenberg Tr. 552; Cassidy Tr. 758–59; Countryman Tr. 1046–47). Further, since linerboard has different handling and operating characteristics on the fourdrinier machine and is generally a heavier grade than medium, linerboard machines generally have different pressing sections (Countryman Tr. 1047–49) and more dryers than medium machines, and are equipped with calendar stacks for finishing purposes. (Wollenberg Tr. 551–52; Cassidy Tr. 758–59; Countryman Tr. 1049–50).

75. The similarities between liner and medium facilities, though, allow almost any liner machine to be converted to medium production at small expense. (Justus Tr. 2288–92). The second headbox can be removed and adjustments would have to be made to the dryers, since medium does not require as much drying time. (Countryman Tr. 1050; Cassidy Tr. 758–59). However, there is evidence of inefficiencies in such conversion. (Countryman Tr. 1050; Findings 160–163, below).

76. The kraft pulping process used for liner in addition to being

[7] Another process, called the "sulfite" process, may be used if the linerboard is to be bleached. (CX 190Z2). Linerboard may also be produced from recycled materials. (Wollenberg, Tr. 527). However, recycled linerboard (frequently called "jute") (CX 190Q) generally is not substitutable for kraft linerboard in most applications. (CX 107I; CX 190Q-R; Wollenberg Tr. 586). Jute has a lower bursting strength than kraft linerboard, so that a heavier weight must be used to achieve a suitable bursting strength, which increases handling and shipping costs for the box user and creates problems in conforming to Rule 41 standards. (CX 107I; CX 140Z144; CX 190Q-R; Brundage, JX 5Q). Accordingly, the process has been steadily declining in use (CX 107I), so that less than 2.5% of total domestic linerboard for corrugated and solid fiber boxes is made from recycled fiber (WX 1334D; CX 107F, I; CX 152Z92, Z97 IC; CX 168D; *see* CX 144M; CX 145N; *cf.* CX 180T), and much of that is used only for the inside portion of corrugated boxes. (Wollenberg Tr. 586).

somewhat different from the semichemical pulping process used for medium, also tends to yield less furnish per ton of chips than does the semichemical process, primarily due to the less dense nature of softwoods. (Cassidy Tr. 765–66). However, as noted, some medium mills use softwoods as their raw material (Finding 33), and the digesters used to cook chips at a liner mill are similar to those used at a medium mill. (Justus Tr. 2291).

77. Liner mills are also capital intensive facilities, and therefore, have high fixed and quasi-fixed costs. Accordingly, like medium mills, they must be run on a maximum utilization schedule in order to realize the efficiencies of their scale and specialization. (Brown Tr. 2482; Campbell Tr. 666–67; Waechter Tr. 1713).

78. Like medium, liner is manufactured to various specifications and is produced in different basis weights: 26, [23] 33 (lightweight), 38, 42, 69 (middleweight), and 95 (heavyweight) pounds per thousand square feet (msf), and different trim widths. (Campbell Tr. 718; Presson Tr. 1541). In addition, there are a number of specialty grades of linerboard that have different surface finishes or colors such as brown, "mottled white" (gray) and "bleached" (white). (Presson Tr. 1541).

79. Liner may also be treated with chemical applications to provide it with various characteristics, such as moisture resistance, and there are a number of proprietary brands of liner which possess certain characteristics that their producers believe have a competitive significance. (Cassidy Tr. 860–61).

80. As a consequence of these various specifications, liner mills have the same inability to build inventories as medium mills. (Campbell Tr. 690).

F. *Swing Mills*

81. A number of mills have the present capability of making either liner or medium. Due to this flexibility, they are commonly known as "swing" mills. A swing mill may also refer to a mill that makes products other than just containerboard, such as mills that make either liner or kraft sack ("grocery sack"). (CX 313B; Wollenberg 533–35).

82. There are three swing mills on the west coast. Crown Zellerbach's recycled mill in Antioch, California produces both recycled liner and recycled medium. (CX 316B). Willamette Industries (Western Kraft) also has a recycled swing mill in Port Hueneme, California, which can produce either medium or liner. (WX 1200111 T). Longview Fibre's mill complex makes semichemical medium on up to five of the complex's 11 paper machines. (Wollenberg Tr. 535).

G. *Mill Complexes*

83. Weyerhaeuser and other producers frequently attempt to place their primary fiber mills at sites where they have other facilities in order to attain certain efficiencies. For that matter, the North Bend mill is the only Weyerhaeuser medium facility that is not, at present, part of a complex that produces either liner or some other fiber product. (WX 1303 G; Waechter Tr. 1625, 1634). Nationwide, there are 36 containerboard complexes, with 12 on the west coast. (WX 1351 A). [24]

84. A major reason for mill complexes is to allow producers to better utilize timber in nearby areas. (Locke Tr. 915, 968; Countryman Tr. 1096; Brown Tr. 2454). In addition to better utilization of timber stands, mill complexes also allow producers to attain efficiencies in other areas, such as, "cross-recovery" of chemicals in the pulping process (Johnson Tr. 451, 486–87; Locke Tr. 971; Brown Tr. 2456–57), common raw materials handling (Waechter Tr. 1626), shared transportation costs (Brown Tr. 2457), shared administrative costs (Locke Tr. 971), and "thermal efficiencies". (Locke Tr. 971–72).

V. THE DISTRIBUTION AND MARKETING OF CONTAINERBOARD

85. Shipments of medium fall primarily into one of three categories: shipments by vertically integrated medium producers to their own box plants; shipments to box plants of other companies in exchange for medium or liner (commonly referred to as "trades" or "exchanges"); and shipments pursuant to outside sales. (CX 651, Stip. 54). In addition, producers may use brokers to distribute a portion of their production. (Findings 112–117).

A. *Internal Consumption*

86. Since box plants are the only marketing outlet for medium (CX 651, Stip. 43), and since producers have significant and substantial incentives to optimize mill scheduling (Findings 46–53), many containerboard producers have integrated forward into box production. Thus, Weyerhaeuser's major purpose in both initially acquiring box plants as well as expanding them over the years is to obtain "a stable customer base" that allows it to plan more efficiently the various production runs it needs to make in the course of a year. (Waechter Tr. 1648).

87. In 1979, at least 30 of the 41 U.S. producers of corrugating medium also produced corrugated containers. (CX 651, Stip. 65). Ten of the 11 companies that presently produce corrugating medium on the west coast have box plants there as well. (WX 1737 A-D).

88. With the high degree of forward integration that exists in the

industry, most of the corrugating medium produced is consumed directly, or indirectly through exchanges, by plants owned by containerboard producers. (CX 651, Stip 66). Nationwide, Weyerhaeuser directly consumes "about 70 percent" of its containerboard production in its own box shops. (Waechter Tr. 1651). [**25**]

89. In supplying their box plants with containerboard, producers charge the plants a "transfer" price. [***]

B. *Exchanges*

90. Another common form of distribution in the industry involves "exchanges" or "trades." Exchanges have been prevalent in the industry for a substantial number of years. (Wollenberg Tr. 602). Under an exchange agreement, one producer ships medium or linerboard to a second producer's box plant in exchange for shipments of medium or linerboard to one of the first producer's box plants. Exchanges can be liner for liner, medium for medium, or medium for liner. (CX 651, Stip. 59).

91. [***]

92. Trades or exchanges serve several important purposes. *First,* they are frequently used to reduce freight charges by reducing shipping distance. (CX 651, Stip. 63). For instance, Weyerhaeuser's North Bend mill ships medium to Owens-Illinois' box plant in the San Francisco Bay area in exchange for Owens-Illinois' Tomahawk, Wisconsin mill shipping medium to Weyerhaeuser's box plant in Rochester, New York. (WX 1123 A IC; Cassidy Tr. 855). This transaction results in significant freight savings for both companies because it allows them to source their box plants with medium from mills of other producers that are much closer to their box plants than are their own mills.

93. *Second,* trades are used to maximize the trim efficiencies of mills. (Findings 67–69). Because box plants have varying sizes of corrugators, a given producer's box plants [**26**] may require roll widths that do not allow its mills to minimize their waste or trim. Through an exchange agreement, that box plant may be able to obtain the medium it needs from another mill that has available the specific trim. (Cassidy Tr. 789–90; Diforio Tr. 2111, 2151–52; Price Tr. 2207; Presson Tr. 1566–67; Johnson JX 6 L; Johnson Tr. 465; Campbell Tr. 664).

94. *Third,* exchange agreements foster mill optimization by allowing longer production runs of a grade or basis weight. Some mills also produce one grade more efficiently than another. An exchange agreement may allow both producers to specialize their own production while at the same time securing a steady supply of various grades to their respective box plants. (Cassidy Tr. 793–94; Campbell Tr. 664; Presson Tr. 1567–68; Price Tr. 2207; Perry Tr. 2325).

95. Trades also enhance the efficiency and growth of box shop operations. As Mr. Waechter stated, trades have "enabled us to, certainly on a total system basis, keep our costs as low as possible, far more than we could with only our own facilities. It's enabled us to trade into our system some grades that we don't make or don't make economically. So it gives your converting business a very broad source of supply." (Waechter Tr. 1650–51).

96. Without trades, box prices might be higher. Mr. Price of Stone Container testified that one of the reasons his company engages in trades is to "improve the efficiencies of the box plants. . . ." (Price Tr. 2207; *see also,* Wollenberg Tr. 603; Waechter Tr. 1757).

97. Trades are easy to arrange; companies frequently have 20 to 30 trade partners nationwide. (Presson Tr. 1569; Perry Tr. 2323; Diforio Tr. 2110; Price Tr. 2208). Weyerhaeuser has 23 exchange agreements. (WX 1131 A-J).

98. Exchange agreements are typically for one-year terms. (CX 651, Stip. 60; Presson Tr. 1572; Price Tr. 2208). Mr. Jack Presson, Weyerhaeuser's Logistics Manager for Containerboard Operations, explained that these contracts are frequently renewed annually because renewal

> provides a level of stability . . . [on the] paper mill side. We can expect to receive the same type of order patterns in the grades and widths that are good for us. From the box plant side, it provides that continuity [27] in terms of their supply sources from one month to the next. . . . So from a routine flow the term contract is better, and just the fundamental nature of the things that make that trade good to begin with are the same kinds of things that make it good the next month and the next month and the next month. (Presson Tr. 1572–73).

99. Although exchange agreements are frequently renewed, each producer must live up to its obligations under the agreement or lose the trade. For instance, Owens-Illinois discontinued an exchange agreement with Weyerhaeuser when its box plants were dissatisfied with the brightness of the color of the liner they were receiving from Weyerhaeuser's Valliant, Oklahoma containerboard complex. (Cassidy Tr. 885; Presson Tr. 1608–09). [***] The record contains other testimony to the effect that exchange agreements will be terminated or not be renewed when there is dissatisfaction with quality or service. (Campbell Tr. 665; Diforio Tr. 2112–13; Presson Tr. 1573–74; Price Tr. 2208–09).

100. Industry witnesses testified uniformly that exchange agreements are viewed as simultaneous buy/sell transactions that differ from open market transactions only in that they involve less cost and less risk of loss. (Cassidy Tr. 790–91; Diforio Tr. 2110–11, 2156 IC;

are coordinated in order to preserve the advantage of forward integration into box plants and to improve mill scheduling. (Presson Tr. 1570–71; Cassidy Tr. 790–91; Waechter Tr. 1689–90; Perry Tr. 2326).

101. Exchange agreements are similar to open market transactions in the way payments are made. For instance, under Weyerhaeuser's exchange agreement with Owens-Illinois, Owens-Illinois' box plant in Tracy, California receives an invoice from Weyerhaeuser's North Bend mill, which Owens-Illinois pays directly. In turn, Weyerhaeuser's box plant in Rochester, New York receives an invoice from Owens-Illinois' Tomahawk, Wisconsin mill, which is paid by the Weyerhaeuser box plant. In sum, money changes hands as it would in a direct sale or purchase. (Cassidy Tr. 855–56; Johnson Tr. 467–68, 507; Presson Tr. 1569; Diforio Tr. 2110, 2151; Price Tr. 2208). Very few trades are barter arrangements where no money changes hands. (Diforio Tr. 1569; Perry Tr. 2326). **[28]**

102. Exchange agreements typically are based on prices reported in *Official Board Markets* ("OBM"). OBM is an independent publication that reports prices "as announced to customers by major board producers." (WX 1508 A-H).

103. Industry witnesses testified that OBM prices are used in exchanges primarily to avoid price communications between competing producers. (Wollenberg Tr. 605; Cassidy Tr. 798–99; Presson Tr. 1570; Diforio Tr. 2110; Price Tr. 2208; Perry Tr. 2326).

104. Although a box plant pays the OBM price to the trade partner's mill, it frequently receives an intra-company adjustment or rebate to correspond to its company's then-prevailing internal transfer price. ([***]). This is due to the fact that OBM prices do not always reflect the prevailing market price level in the industry. (Diforio Tr. 2111; Price Tr. 2215 IC; Finding 120 n. 9). Without this adjustment, box plants could not remain competitive and still generate any profit. (Cassidy Tr. 801–02 IC; Perry Tr. 2327).

C. *Open Market Sales*

105. Some companies are committed to being "net sellers" of containerboard, which means that they deliberately produce more containerboard than they consume. Weyerhaeuser has consciously pursued the strategy of being a net seller. (Waechter Tr. 1656–57).

106. Producers can rarely match exactly their production with their consumption. (Waechter Tr. 1653–55). Accordingly, virtually all producers, even if not normally net sellers, occasionally find themselves with some surplus tonnage that they sell on the open market. (Findings 107–108, below).

107. Sales on the open market are also a means of allowing a producer to optimize mill production. For instance, even if a producer

were a net buyer of containerboard, it might choose to sell some tonnage on the open market in order to round out production runs of particular grades or weights that it does not need internally. (Waechter Tr. 1657).

108. A producer may also make sales on the open market even though it could consume all of its production, in order to maintain a position in the open market for times when demand is [29] weak and its containerboard production would otherwise be in excess. (Diforio Tr. 2112; Waechter Tr. 1657, 1698–99).

109. There is competition for open market customers. The evidence in this proceeding revealed that independent (non-integrated) box plants on the west coast have a number of suppliers actually selling to them, and are continuously solicited by still other sources of supply. (Howard Tr. 2066–67 part IC; York Tr. 1932–34 IC; Watts Tr. 2001–02; Aitchinson Tr. 2028–29; JX 5 E-H).

110. Similar conditions of supply prevail for box plants owned by integrated companies that do not produce medium on the west coast. These box plants obtain the containerboard they need through direct shipments from their own eastern mills, exchange agreements, or outright purchases. They are actively solicited by other suppliers. Thus, Mr. Stan Price of Stone Container Corporation testified that his Los Angeles area box plant had an adequate number of suppliers and "in fact, we are turning down approaches by other suppliers." (Price Tr. 2206). Similarly, Mr. Alfred Perry of Continental Forest Industries testified that his Los Angeles area box plant had never had any difficulty obtaining medium over the last "20 years," and that "there is ample medium supply on the west coast." (Perry Tr. 2332).

111. Open market sales represent the smallest portion of medium consumption. (CX 651, Stip. 66). On the west coast, only about 12% of the medium consumed was sold on the open market, with about 24% being utilized by the box plants of eastern producers (primarily through trades) and about 64% being consumed in the box plants of the west coast medium producers. (WX 2015 A).

D. *Distribution Through Brokers*

112. While the bulk of medium distribution is handled directly between producers and consumers, there are brokers in the industry. From the producer's standpoint, brokers are simply another source of customers. [***]

113. Due to their role as resellers in the distribution chain, "brokers receive a commission and usually an adjustment in freight." ([***]). Thus, a broker "gets at [30] least five percent" off the typical market price. ([***]). Once a producer contracts with a broker, the broker is

114. From the consumer's viewpoint, brokers are another supplier of containerboard. [***]

115. Brokers also may serve as a "competitive sounding board" for customers, enabling them to take advantage of the best supply sources and the best prices. [***] an independent box plant [***] believes that "it is a sound business practice to have a paper merchant [*i.e.*, a broker] who has contacts throughout the United States with all suppliers of containerboard. . . ." ([***]). Similarly, Mr. Perry of Continental Forest testified that brokers would allow his west coast box plant to know whether a "price really is justified." (Perry Tr. 2349–50).

116. The evidence also indicates that brokers are competitive with producers. (WX 1200a part IC; WX 1200m; WX 1200bb part IC; WX 1200uu; WX 1200hhh). [***] explained that the brokers supplying his [***] box plant charged him "a competitive" price. ([***]). And [***] indicated that his broker's "competitiveness" was "equal to everybody else." ([***]). Significantly, [***] indicated that if brokers gave him a more competitive price, all other factors being equal, he would increase his purchases from them. (*Id.* IC). [***] testified that he had no "true preference" and did not "really care" whether he purchases from a producer or a broker. ([***]).

117. Many brokers solicit sales on the west coast. For example, [***], an independent box plant in the [***] area, has contacts with the following brokers: (1) La Boiteaux, (2) American Fibers, (3) The Donohoo Group, (4) Gibson Group, and (5) The Pacific Rim Group. ([***]). [***] uses another broker, George Field. ([***]). [31]

VI. PRICE STRUCTURE

A. *Delivered Pricing*

118. Medium is generally sold on a delivered price basis. (CX 651, Stip. 55). The prevalence of delivered pricing is the result of customer preference. (Waechter Tr. 1700; Aitchinson Tr. 2070; Howard Tr. 2084; Diforio Tr. 2130; Perry Tr. 2333).

119. Although some medium producers on the west coast and elsewhere may sell at uniform delivered prices (Wollenberg Tr. 590), this does not appear to be a universal practice within the industry. There is evidence that in both the east and the west different prices are charged to different customers from time to time and that prices often vary between competing mills. (Johnson Tr. 503 IC; Cassidy Tr. 801 IC; Locke Tr. 985 IC; York Tr. 1934 IC; Watts Tr. 1983 IC; Aitchinson Tr. 2023 IC, 2048 IC; Howard Tr. 2065 IC; Diforio Tr. 2167–68 IC; Perry Tr. 2351 IC; WX 1200a part IC; WX 1200b part IC; WX 1200 m;

WX 1200u; WX 1200bb part IC; WX 1200cc; WX 1200uu; WX 1200 hhh).[8] [***]

B. *OBM Prices*

120. OBM prices, which the record indicates are based upon sellers' prices taken from a survey of medium and liner customers (Wollenberg Tr. 590–91; Campbell Tr. 662; Cassidy Tr. 801 IC), are generally an accurate reflection of the market price, except during recessionary periods such as that beginning [32] in late 1981. (Waechter, CX 64Z63; Presson, CX 65Z39–Z40; Johnson Tr. 463–64, 505; Wollenberg Tr. 590–92; Campbell Tr. 666; Cassidy Tr. 803–04; *but compare* CX 709 with WX 1200a part IC, WX 1200b part IC, WX 1200h, WX 1200m, WX 1200u, WX 1200 aaa and WX 1200hhh). Further, exchange agreements, which represent the vast majority of external medium transfers on the west coast (WX 2015 A; CX 704) are virtually all transacted at OBM prices. (Johnson Tr. 467; Campbell Tr. 662; Cassidy Tr. 798–99; Presson Tr. 1570, 1613; Diforio Tr. 2110, 2151, 2154–56 IC; Price Tr. 2208, 2227 IC, 2234; Perry Tr. 2326; Brown Tr. 2518; CX 24A-Z50; CX 48Z44, Z48–Z49; CX 51Z2–Z4; CX 52A; CX 189A-Y IC; WX 1114 through WX 1130 all IC). Thus, other than for intra-company transfers that have only an arbitrary transfer price, domestic medium transactions tend to be made at or near OBM reported prices. It is, therefore, reasonable to look at these prices as representative of the general level and movement of prices in the overall market, at least insofar as a comparison of prices on the west coast with those in other sections of the country is concerned.[9]

C. *The East-West Differential*

121. A review of OBM prices on a nationwide basis, during the period 1973 through 1981, reveals a very close relationship between medium and liner prices and between containerboard prices on the west coast and those in the rest of the nation (herein generally referred to collectively as the east). (CX 709A-Z2). In fact, during most of this period the price differential between west coast prices and eastern prices (the E-W Differential) was only $4.25 for medium (the west coast price being the higher), with linerboard prices being identi-

[8] When comparing prices charged to various independent box shops, as reported on their subpoena returns—WX 1200a, b, h, m, t, u, bb part IC, cc, uu, aaa and hhh—it should be noted that some companies report their costs on the basis of thousand square feet or square feet. These can be converted to a dollar per ton basis by using the following formula:

$$\$/\text{ton} = \frac{\text{MSF price}}{\frac{1}{2}\text{ basis weight}} \times 1000$$

The basis weight is the 26 pound, 32 pound, etc., basis weight of the medium.

[9] It is clear from the evidence that OBM does not always pick up all transaction prices available in a particular area. (Johnson Tr. 463–64, 505; Wollenberg Tr. 590–92; Campbell Tr. 666; Cassidy Tr. 803–04; Perry Tr. 2350 IC). It also appears that various mills do not always exactly parallel OBM prices, even in their list prices. (Wollenberg

cal in both areas. (*See* CX 709, attached hereto as Appendix I). In April 1980, this differential was widened to $34.25 for medium and $30.00 for liner. (CX 709W). Evidence of record indicates that this increase was due initially to shorter supplies and [33] higher prices for wood chips in the west which reflected a temporary surge in chip exports from the west coast which began in 1979 and accelerated in 1980. (Countryman Tr. 1070; Brown Tr. 2510; CX 30; CX 623C; *See also* CX 942 and CX 960). Later, and more importantly, there was a substantial downturn in the housing and lumber markets due to the recession, which decreased the supply and increased the prices of residual wood chips on the west coast. (Wollenberg Tr. 595–97; Countryman Tr. 1070, 1098; Brown Tr. 2510; Presson, CX 65Z31–Z32; CX 20C; CX 131F; CX 132B; CX 217A; CX 154C).

122. The lock-step pricing of medium and liner between the west and the east during the ten year period 1973–1982[10] has been remarkable, with prices rising and falling together throughout this entire period, except in 1980 when the west coast suffered disproportionate cost increases and the E-W Differential was increased by $30.00. (Finding 121; *See also,* CRB 1–4).

123. The price differential of $4.25 did not even closely approximate the transportation cost involved in shipments by eastern mills to the west coast. (WX 1159 K-L IC; WX 1200c-D; WX 1200j-D IC; WX 1200o-H IC; WX 1200p-I IC; WX 1200ii-H-I; WX 1200jj-D; WX 1200tt-L; WX 1200ww-G IC; WX 1200xx-D IC; WX 1200eee-H IC; WX 1200ppp-J IC). In fact, complaint counsel admit that, overall, the equilibrium transportation cost difference has not yet been equalled by the E-W Differential, even during that period when it was at $34.25. (Oral Argument Tr. 8–9).[11] [34]

VII. WEST COAST PRODUCTION AND CONSUMPTION OF CONTAINERBOARD

124. As noted above, there are 13 medium mills on the west coast (the 11 state area designated as the relevant market in the complaint). These are operated by 11 companies (Finding 48), with Weyerhaeuser

[10] Even during 1982 the OBM prices are an accurate reflection of price differences between the east and the west coast, since respondent admits that the E-W Differential was approximately the same ($30–$35) on a transaction price basis as on the basis of OBM prices during this time. (Oral Argument Tr. 43; WX 1333 K-L IC).

[11] The evidence indicates that the $34.25 differential was a temporary aberration caused primarily by the housing slump and that the differential was greatly reduced in the spring of 1983, when the eastern prices were increased without a corresponding increase in the west coast prices. This reduced the E-W Differential to $10–14 from the $30–35 range which persisted through 1982. (Diforio Tr. 2135 IC, 2174; Price Tr. 2217 IC, 2226 IC; Perry Tr. 2351 IC, 2375; Brown Tr. 2496 IC, 2509–10). Eastern firms had previously attempted to raise their prices, so as to match the old differential of $4.25, in May 1980 and January 1981, but without lasting success. (CX 709W & Z). Respondent urges, with some evidential support, that the E-W Differential will never go back to the pre-1980 level and will continue to widen, due to an ever-widening cost gap between mills on the west coast and those in the southeastern portion of the country. (Clephane Tr. 2610–11, 2612; Brown Tr. 2470–72, 2476 IC). Thus, the increase in the E-W Differential may also represent a natural re-alignment of prices to reflect the growing differences in costs between west and east. In any event, it doesn't appear from the record that the equilibrium transportation cost difference will be equalled in the near future by the E-W Differential, barring a renewal of the deep recession in the housing industry which occurred in 1981 and 1982.

and Willamette (Western Kraft) each operating two medium mills. (WX 1354A). Both of Weyerhaeuser's mills are semichemical mills, whereas Willamette operates a recycled medium mill in Port Hueneme, California and a semichemical medium mill in Albany, Oregon. (WX 1354A part IC).

125. There are also 13 linerboard mills on the west coast. (WX 1356A). Again the 13 mills are operated by 11 companies. In this instance though, it is Container Corporation of America and Crown Zellerbach that each operate two mills. Both of Container Corporations' mills are recycled mills and Crown Zellerbach operates one kraft liner mill and one recycled mill. All of the other west coast liner mills are kraft mills. (WX 1356A). [35]

126. Seven companies produce both medium and linerboard on the west coast and also have box shops located there. They are:

(a) Container Corp. has a complex in Los Angeles, California which produces recycled medium and recycled liner. It also has a recycled liner mill in Tacoma, Washington. It operates 5 box shops on the west coast; 4 in California and 1 in Oregon. (WX 1301d-A; WX 1354A part IC; WX 1356A).

(b) Crown Zellerbach has a mill at Antioch, California which produces both recycled medium and recycled liner. This mill is a "swing mill" in that it can produce either medium or liner on the same machinery. It also operates a kraft liner mill at Port Townsend, Washington. Crown Zellerbach operates 2 box shops in California. (WX 1301f-A; WX 1354A part IC; WX 1356A; CX 316B).

(c) Georgia Pacific produces semichemical medium and kraft liner at its mill complex at Toledo, Oregon. It also operates 5 box shops on the west coast; 4 in California and 1 in Washington. (WX 1301g-A; WX 1354A part IC; WX 1356A).

(d) Longview Fibre has a mill complex at Longview, Washington which produces both semichemical medium and kraft liner. This is a "swing mill" in that some of its machines are used for both medium and liner at various times. It operates 6 box shops in the west; 2 in California, 3 in Washington, and 1 in Idaho. (WX 1301j-A; WX 1354A part IC; WX 1356A; Wollenberg Tr. 535).

(e) Louisiana Pacific operates a mill complex at Antioch, California which produces both semichemical medium and kraft liner. It operates 2 box shops; 1 in California and 1 in Arizona. (WX 1301k-A; WX 1354A part IC; WX 1356A).

(f) Respondent Weyerhaeuser produces semichemical medium at mills in Longview, Washington and North Bend, Oregon (the acquired mill) and kraft liner at a mill in Springfield, Oregon. As previously

noted, it has 9 box shops on the west coast; 6 in California, 1 in Oregon and 2 in Washington. (WX 1301t-A; WX 1354A part IC; WX 1356A).

(g) Willamette (Western Kraft) has a recycled swing mill in Port Hueneme, California which can produce either recycled medium or recycled liner. (WX 1200111–T). In 1982 this mill was used primarily to produce medium. (WX 1200111–U, W). It also has a mill complex at Albany, Oregon, which produces both semichemical medium and kraft liner. It operates 7 box shops on the west coast; 4 in California, 1 in Oregon and 2 in Washington. (WX 1301u-A; WX 1354A part IC; WX 1356A). **[36]**

127. Four companies operate medium mills on the west coast, but do not have linerboard mills there.

(a) Inland Container has a recycled medium mill at Santa Clara, California. It also operates 3 box shops on the west coast, all in California. (WX 1301h-A; WX 1354A part IC).

(b) Newark Boxboard Co., through its subsidiary California Paperboard Corporation, operates a recycled medium mill at Santa Clara, California. (WX 1354A part IC). This is the only medium producer on the west coast that has no box shops there. (WX 1737B IC).

(c) Specialty Paper Mills has a recycled medium mill at Santa Fe Springs, California. It apparently has 2 box shops on the west coast, but the locations are not revealed by the record. (WX 1354A part IC; WX 1737B part IC; CF 2–48; RF 136).

(d) Boise Cascade has a semichemical medium mill at Wallula, Washington. It also operates 7 box shops in the west; 2 in California, 1 in Oregon, 1 in Washington, 2 in Idaho and 1 in Colorado. (WX 1301b-A; WX 1354A part IC).

128. Four companies operate linerboard mills on the west coast, but produce no medium there.

(a) Champion International operates a kraft liner mill in Missoula, Montana. It has no medium mill on the west coast, but operates a semichemical medium mill at Ontonagon, Michigan and a recycled medium mill at St. Paul, Minnesota (this latter mill was converted from semichemical to recycled in 1980). It operates 4 box shops in the west; 3 in California and 1 in Colorado. (WX 1301c-A; WX 1200j-B,E; WX 1354A part IC; WX 1356A).

(b) International Paper Company operates a kraft liner mill at Gardiner, Oregon. It operates no medium mill in the west, but does produce semichemical medium in the southeast at its mill complex in Mansfield, Louisiana. It has 4 box shops on the west coast, all in California. (WX 1301i-A; WX 1356A; WX 1200jj-B).

(c) St. Regis has a kraft liner mill in Tacoma, Washington. It has no medium mill on the west coast, but has two recycled medium mills

in the east. It has no box shops on the west coast. (WX 1356A; WX 1200zz-C, I; WX 1305A-D). [37]

(d) Southwest Forest Industries, Inc., has a kraft liner mill at Snowflake, Arizona. It has no medium mill in the west or the east. It operates 2 box shops in the west; 1 in Arizona and 1 in California. (CX 1301q; WX 1356A).

129. Five integrated companies have neither medium nor liner mills in the west, but operate box shops there.

(a) Continental Forest Industries which has a semichemical medium mill in Louisiana, but none in the west, operates 1 box shop in California. (WX 1301e-A).

(b) Owens-Illinois which has two semichemical medium mills in the east, but none in the west, operates 3 box shops in California. (WX 1301o-A).

(c) Packaging Corporation of America has a semichemical medium mill in Michigan, but no medium production in the west. It has 2 western box shops; 1 in Colorado and 1 in Utah. (WX 1301p-A).

(d) Stone Container Corp. has a semichemical medium mill in Ohio, but no such facilities in the west. It operates 2 western box shops; 1 in California and 1 in Arizona. (WX 1301r).

(e) Union Camp Corp. has no medium plants in the United States. It operates 1 western box plant, in Colorado. (WX 1200 iii; WX 1305B).

130. There were approximately 12 independent box shops in the west, including Abbey Corrugated which is now bankrupt and out of business. (WX 1305A-C; Watts Tr. 1971 *et seq.;* Oral Argument Tr. 53). Most of these are located in the State of California. (WX 1305A-B; Watts Tr. 1971 *et seq.*)

131. Thus, out of approximately 80 box shops in the west coast area, 49 are owned by 10 integrated west coast medium producers, 19 are owned by other integrated producers of medium and/or liner who do not have medium mills in the west, and only about 11 or 12 are operated by non-integrated, "independent," [38] manufacturers.[12] (Findings 126–130). As a result, as previously noted, open market sales represent the smallest portion of west coast medium consumption. Only about 12% of such consumption is accounted for by open market sales. About 24% is utilized by the box plants of the integrated companies with no western medium mills and the remaining 64% is consumed internally in the box plants of the western medium producers. (Finding 111; WX 2015A).

132. Although most of this medium is supplied to the box shops by medium producers, through internal transfers, exchanges, or open

[12] The "independent" box plants considered herein do not include "sheet plants." "Sheet plants" are small operations which also produce boxes, but which do not have their own corrugaters. They must purchase corrugated sheets from other box shops. Therefore, they do not purchase medium or liner as a separate product. (CX 109Z–9).

market sales, the box shops also can turn to brokers for some of their medium supplies. At least 7 of the independent box shops and some of the integrated companies have purchased a portion of their medium needs through a number of brokers who operate in the west coast area. (WX 1200a part IC, m, t part IC, u, bb part IC, uu, aaa, hhh; Perry Tr. 2349–50, 2328–29 IC).

VIII. WEST COAST MEDIUM SUPPLY

A. *Shipments From The East*

133. Shipments from eastern mills to the west coast are a small but apparently growing portion of the west coast medium supply. Such shipments are not limited to only those companies having box shops in the west. (CX 953A). Of the 21 eastern mills which shipped medium to the west coast during the six-year period 1977–1982, 6 of the mills had no proprietary relationship with a west coast box shop at the time. (CX 953A). Eight of the mills were owned by companies having box shops in the west, but no medium production facilities there (CX 953A), and seven were operated by companies which had west coast medium mills and box shops but still received shipments of medium at their west [**39**] coast box shops from medium mills they owned in the east. (CX 953A).[13]

134. There have also been medium shipments into the west coast area through brokers, and at least one Canadian medium producer. (*See, e.g.,* WX 1200 qqq IC; York Tr. 1932–34 IC; Findings 113–117, 132). Such shipments cannot be quantified precisely, since exact information as to the volume of these shipments is available from only one broker, La Boiteaux, and that is only available for the years 1980–1982. (WX 1200 qqq IC). As to the other brokers and Belkin Paperboard of Canada, there is only testimony from some of the companies who purchased from these sources (Findings 113–117; York Tr. 1932–34 IC), and the returns of several of the independent box shops who were subpoenaed by respondent and who volunteered information as to the identity of their suppliers. (WX 1200 a part IC, m, t part IC, u, bb part IC, uu, aaa, hhh).

135. For as far back as there is evidence of record, shipments of medium and liner have been made from eastern mills to the west coast. Mr. Alfred Perry of Continental Forest Industries testified that his company has shipped medium to its Los Angeles box plant for "probably 20" years. (Perry Tr. 2334). During the period 1977–1982, 16 different companies have shipped medium to the west coast from 21 different eastern mills. (CX 953A; Finding 133).

[13] In these last seven, I have not counted Menasha's shipments from its Otsego, Michigan mill in 1977, when it still owned the North Bend mill and the Anaheim box shop. (CX 953A).

136. Despite the fact that until 1980 the E-W Differential was only $4.25, the record evidence indicates that such shipments have been profitable ones. (Kamerschen Tr. 1478; Cassidy Tr. 861, 865–67; Locke Tr. 986–87 IC; Price Tr. 2215 IC, 2217–19 IC; Perry Tr. 2335–36 IC; WX 1159L IC).[14] Additionally, the evidence indicates that eastern mills selling in the open market on the west coast did so at competitive prices and on competitive service terms. (York, Tr. 1933–35 IC; Watts Tr. 2017; Aitchinson Tr. 2029; Howard Tr. 2068; Diforio [**40**] Tr. 2122 IC, 2132–33; Perry Tr. 2330 IC; WX 1200a part IC, b part IC, m, t part IC, u, bb part IC, uu, aaa, hhh; *See, e.g.,* WX 1200u-R).

137. Complaint counsel's tabulation, based upon subpoena returns for the years 1977–1981 and the returns to respondent's subpoenas for the year 1982, reveal that from 1977 through 1982 the following percentages of medium consumed in the west were provided by eastern mills:

1977 – 5.9%
1978 – 8.8%
1979 – 6.9%
1980 – 5.5%
1981 – 7.6%
1982 – 9.6%

(CX 953A)

These figures omit all imports through brokers and Canadian producers since such data were not available. [***]

138. The years 1978 and 1979 were atypical years, since there were a series of strikes at containerboard mills on the west coast during these years, which necessitated shipments from the east to meet the demands of the western box shops. (Cassidy Tr. 859; Perry Tr. 2335; Brown Tr. 2488; Brozen Tr. 2867–68; CX 307A; CX 313D; CX 325D; CX 334D; CX 335D; CX 170H; CX 953A). Taking this into consideration, there has been a steady increase in shipments over this period, despite the fact that the recent recession caused a substantial drop in medium consumption in both the east and the west beginning in the fourth quarter of 1981 and extending through 1982. (CX 639; CX 648; CX 155B-C; CX 156D; CX 157A-D; CX 158D; CX 163G, O IC; Wollenberg Tr. 588–89).

139. However, as the above figures show, the imports of medium into the west coast area have probably not exceeded 10% of the west coast medium supply over the past six year period. (Finding 137).

[14] There is evidence that, at least for some companies at some times; the E-W Differential on a *transaction* level basis was somewhat higher than $4.25 during this earlier period. (*See, e.g.,* CX 719, regarding Menasha).

140. Given the basic characteristics of this industry, especially the importance of exchange agreements in effecting the supply of the vast majority of the box shops, *i.e.,* those operated by integrated companies, this low percentage of imports is not surprising. [41]

B. *Factors Affecting Shipments*

141. In the first place, it must be remembered that the open market (the independent box shops) represent only about 12% of the total medium consumption on the west coast. (Finding 131). Adding in the box shops of integrated companies having no medium plant in the west, only raises that portion of the market open to imports to about 36%. (Finding 131). The remainder of the west coast medium consumption takes place in the captive market operated by the west coast medium producers. (Finding 131). The real market for eastern imports is, therefore, quite a bit smaller than the total west coast medium consumption.

142. The practice of exchange agreements, by which this industry operates, narrows this available market even more. The exchange agreements between the eastern producers with western box shops and the western medium producers act as a surrogate for shipments from eastern mills to those western box shops. The evidence indicates that these eastern producers are quite supportive of their western box shops and would not allow them to curtail production because of a shortage of west coast medium to meet their needs. (Cassidy Tr. 859, 866–67; Diforio Tr. 2127–28; Price Tr. 2221; Perry Tr. 2340–41 IC; Brown Tr. 2498). In 1978 and 1979, when west coast medium production was curtailed due to a series of strikes (Finding 138), these eastern companies substantially increased their shipments to the west coast to keep their west coast box shops adequately supplied. (CX 953A; Cassidy Tr. 859; Perry Tr. 2335; Brown Tr. 2488; CX 307A; CX 313D; CX 325D; CX 334D; CX 335D; CX 170H). In fact, at least one company shipped "close to 100 percent" of its box shop needs to the west coast during the strike period. (Perry 2335). At that time the E-W Differential was only $4.25. (CX 709Q-V).

143. Under normal conditions, however, with an adequate supply of medium available for their west coast box shops, it makes little sense for these eastern mills to supply all of the medium needs of their west coast box shops, when exchange agreements can allow them to make more profitable sales closer to their eastern mills. Thus, one producer testified that although he would have realized a profit on shipments to the west coast in the 1981–1982 period when the E-W Differential was $34.25, he was realizing a greater profit on his eastern sales to Weyerhaeuser under his exchange agreement and, therefore, it made no sense for him to break his trade agreement with Weyerhaeuser

just to ship additional product west, since this [42] would displace Weyerhaeuser sales to him in the west and cause Weyerhaeuser to take less from him in the east. ([***]).

144. Although the existence of these exchange agreements does tend to curtail shipments to the west under these circumstances, they cannot be considered a barrier to entry, nor would they limit such shipments in the event the western mills did anything to abrogate the agreements, such as reducing the supply of medium to the west coast box shops of these eastern companies. (Cassidy Tr. 866–67; Diforio Tr. 2127–28; Price Tr. 2221; Perry Tr. 2335, 2340–41 IC; Brown Tr. 2498; Finding 142).

145. This is so because the entire exchange or trade procedure is based upon the mutual satisfaction of the trade partners. (Findings 99–100). If the western partners should do anything to abrogate agreements with eastern mills owning western box shops they would not only jeopardize their own supply in the east, but they would also force such eastern trade partners to ship more medium west to their own box shops so that those box shops would be adequately supplied. (Cassidy Tr. 866–67; Diforio Tr. 2127–28; Price Tr. 2221; Perry Tr. 2326, 2335, 2340–41 IC; Brown Tr. 2498).[15] As Mr. Perry of Continental Forest Industries explained it, the system of exchanges gives his company "clout" with his trading partners.

> Longview or Weyerhaeuser on the west coast cannot do anything to my box plant without having a similar effect on their plants in the east. (Perry Tr. 2326).

146. This fact becomes even more apparent when it is noted that two of these eastern medium producers are among the largest liner producers on the west coast. Champion International which operates 4 box shops in the west, but produces medium only in the east, is the largest producer of linerboard on the west coast. (Finding 128a; WX 1356A). International Paper also has 4 box shops in the west, but produces medium only in the east. (Finding 128b). Its western liner facility ranked 4th on the west coast in terms of production in 1981. (WX 1356A). When it is considered that a corrugated board contains 2 sheets of [43] linerboard for each sheet of corrugating medium, it is clear that these two large integrated companies have an important stake in keeping their west coast box plants operating at full capacity. Since they have already demonstrated their ability to ship more medium west during shortages of supply, during the 1978–1979 strike period, it is clear that they would do so again if the west coast medium supply were curtained through collusion. (Findings 138, 142; CX 953A; Diforio Tr. 2127–28; Brown Tr. 2488–89 IC, 2498).

147. This is not to say, of course, that other eastern medium producers are not interested in ensuring an adequate medium supply to their west coast box shops. The evidence indicates that Owens-Illinois, Stone Container Corp., Packaging Corporation of America and Continental Forest are equally determined to keep their west coast box shops operating at maximum capacity. (Findings 138, 142; CX 953A). However, Champion International and International Paper obviously have extra incentives to keep their western box shops adequately supplied, in view of their substantial investment in linerboard facilities on the west coast.

148. Morever, these and other eastern medium producers have in the past generally shipped medium west for sale on the open market (CX 953A; WX 1200a part IC, m, t part IC, u, bb part IC, uu, aaa, hhh; JX 5F-H; Diforio Tr. 2121; Countryman Tr. 1095; York Tr. 1959–60 IC; Watts 2001–03, 2013, 2017; Aitchinson Tr. 2024 IC, 2029; Howard Tr. 2065 IC, 2068; Lorenz Tr. 2381 IC) and such sales have been profitable ones. (Finding 136). These sales have been increasing in recent years, particularly since the increase in the E-W Differential. (CX 953A; Finding 137). The evidence also reveals that the eastern mills have been in the market soliciting additional sales. (York Tr. 1932–34 IC; Watts Tr. 2001–02; Aitchinson Tr. 2024–26 IC, 2029; Howard Tr. 2066 –67 IC; Brundage, JX 5F-H; Price Tr. 2232; Brown Tr. 2490).

149. Although such sales have not represented more than 10% of west coast consumption in the past (Finding 137), the record indicates that if west coast medium producers were not adequately supplying the west coast box shops, these and other eastern mills would undoubtedly take up the slack. (WX 1732A; Locke Tr. 987 IC; Diforio Tr. 2117 IC; Price Tr. 2232; Perry Tr. 2384 IC, 2387; Brown Tr. 2490).

150. The evidence further indicates that there is enough capacity available for eastern mills to ship additional medium to the west coast, even in normal, non-recessionary times. (CX [44] 3D; CX 7D). Historically, the supply of containerboard has kept pace with and anticipated growth in demand. (Countryman Tr. 1098). In 1970 the total medium produced in this country for domestic use amounted to 4,264,000 tons. By 1981 this production had increased to 5,702,100 tons, despite the recession which began in the last quarter of 1981. (WX 1338g). As explained by Mr. Brown of International Paper "the industry has been characterized by over-capacity . . . since the late 60's." (Brown Tr. 2485). This is also revealed by the returns of the various medium producers to complaint counsel's subpoenas, which reveal an ever-increasing capacity for medium production. (CX 307E, H; CX 312G, J; CX 313D; CX 315C; CX 321F; CX 324G, J; CX 325D-F; CX 330G; CX 331D; CX 334D; CX 335D; CX 337G; CX 338D; CX 341D; CX 348G). Such increases in capacity are being accomplished through:

new mills, primarily in the southeast portion of the country (Johnson Tr. 493–94; Locke Tr. 909; Brown Tr. 2453–54); debottlenecking, that is, making improvements at a point in the production process that is effectively restraining the entire operation's capacity (Johnson Tr. 481–82; Justus Tr. 2278; Perry Tr. 2314; Brown Tr. 2459; Cassidy Tr. 887 IC); upgrading existing facilities (Cassidy Tr. 871 IC, 885–87 IC; Countryman Tr. 1095–96; Waechter Tr. 1642–43, 1735–36; Diforio Tr. 2116 IC; Price Tr. 2193–94 IC; CX 703B; CX 348L; WX 1200 pC,E IC; WX 1200 eeC; WX 1200 jjC; WX 1200 ttk; WX 1200 vvH; WX 1200 pppO; WX 1329G; WX 1336E); increased use of recycled fiber (Justus Tr. 2284; Cassidy Tr. 888; Locke Tr. 933–34; Brown Tr. 2459); and other means (Justus Tr. 2266–67). Mr. Justus of Beloit Corporation, which manufactures machinery and provides technical services for the paper industry, testified that production increases of 25 to 30 percent are possible at most existing mills, particularly any mill "that is seven or eight years old", at a relatively modest expense. (Justus Tr. 2278, 2286).

151. Under these circumstances, west coast medium mills can practicably control medium supply only to their own box shops. An artificial curtailment of supplies to the box shops of other integrated companies and the independents would draw in additional supplies from outside the western states to meet whatever demand existed in the market for corrugated boxes. (Findings 141–150).[16] [45]

C. *The Relationship With Liner*

152. As previously noted, the production and consumption of medium is intimately connected with the production and consumption of liner. It takes two sheets of liner for each sheet of corrugating medium to make corrugated board. (Findings, 23, 146). Therefore, any curtailment of medium consumption entails a correspondingly larger curtailment of liner consumption—domestic medium consumption is approximately 45% of domestic liner consumption. (Calculated from CX 622D).

153. Since liner is readily exchangeable for medium (Findings 90–91), it would be necessary for any colluders in the medium industry to control supply in the liner industry, if they hoped to curtail medium production and consumption. Yet, four of the eleven liner producers on the west coast are not producers of medium there, and two of these, Champion International and International Paper have been

[16] The production curtailments in 1974–1975 and 1981–1982 do not contradict such finding, since these were recessionary periods when the demand for corrugated boxes and, consequently, medium and liner, was greatly reduced. (CX 622D, J and L; CX 155–157). Therefore, the west coast box shops still had an adequate supply of medium to meet their needs. (Diforio Tr. 2117 IC; Perry Tr. 2356 IC, 2384 IC, 2387; Brown Tr. 2490). In fact, cutbacks in medium and liner production occurred on a nationwide basis during these periods and, at least in [illegible] (CX 622D, J, L; CX 155; CX 156; CX 157; CX 714; CX 718).

among the top 4 liner producers on the west coast in recent years. (Findings 128, 146). These latter two companies are also large medium producers in the east, who can readily supply their own western box shops if the need arises. (Findings 128, 146). In any event, the 4 companies producing liner but not medium in the west certainly have no economic incentive to join in any collusion to curtail medium production on the west coast. Furthermore, at least two companies which produce both medium and liner on the west coast (Crown Zellerbach and Longview Fibre) are proportionally far heavier in liner production than in medium production. (WX 1354A; WX 1356A). Also, both of these companies operate "swing mills" which can easily shift [**46**] some of their production from liner to medium on short notice. (Finding 82). Thus, they too would have little incentive to join in any collusion of medium suppliers.

154. Moreover, since most of the top producers of medium on the west coast are also producers of liner on the west coast (WX 1354A part IC; WX 1356A), they would suffer significant losses from their liner business in the event of a curtailment in medium production and consumption. Not only would there be less demand for liner as medium production and consumption was reduced (Kamerschen Tr. 1442; Brozen Tr. 2777; Waechter Tr. 1722–23), but there would be additional losses for some of these integrated companies in connection with their timber and sawmill operations (Waechter Tr. 1636–37) and in the nature of the cost of shared facilities where the companies operate mill complexes. (Wollenberg Tr. 618; Campbell Tr. 711; Locke Tr. 979–80; Countryman Tr. 1107; Waechter Tr. 1625–27; Brown Tr. 2457 IC).

IX. THE RELEVANT MARKET

A. *The Product Market*

155. Despite the close, "complementary" relationship between corrugating medium and linerboard (Kamerschen Tr. 1442; Brozen Tr. 2777) I find the relevant product market within which to judge this acquisition to be corrugating medium. There are a number of characteristics of this product which indicate that it is a separate product market from the production and sale of linerboard. (Findings 156–167, below).

156. Notwithstanding the fact that medium and liner are readily tradeable for each other, they are otherwise quite dissimilar. Medium is the only product that economically meets the characteristics for the fluted material in corrugated board. (CX 651, Stip. 49). Medium is designed for characteristics that cannot be obtained from linerboard or other products. (Findings 26–30). As Mr. Wollenberg of Longview

Fibre explained, liner and medium are not used interchangeably in the production of corrugated containers because "they have different structural functions." (Wollenberg Tr. 534; *See also,* CX 651, Stip. 50; Campbell Tr. 658; Cassidy Tr. 782; Hudson, JX 8N-O). Nor are any of the wide array of other paper products produced by these paper-products companies used interchangeably with medium. (Wollenberg Tr. 576). [47]

157. Similarly, medium lacks the characteristics necessary for use as the linerboard portions of corrugated containers. (Cassidy Tr. 781, 783; Wollenberg Tr. 533–34, 586).

158. Thus, there exists no actual or potential demand-side substitutes for corrugating medium. (Findings 156–157).

159. The record also establishes that actual and potential supply-side flexibility between facilities producing corrugating medium and facilities producing liner and other paper products is extremely limited. (Kamerschen Tr. 1244–46). Because of its particularized functional requirements, corrugating medium is made by a unique production process using specialized facilities, and is not made from the pulp used to produce kraft linerboard or other paper products. (Campbell Tr. 650–51; Wollenberg Tr. 536; Justus Tr. 2289–90; Cassidy Tr. 763).

160. In particular, there are a number of significant differences between the pulp and the pulping equipment used to make semichemical medium and the pulp and pulping equipment used to make kraft linerboard, which make it unlikely that corrugating medium and kraft liner could be made interchangeably at either type of facility without substantial modifications to the facilities. First, due to the differing functional properties of medium and linerboard (Findings 26–30), semichemical medium pulp consists predominantly of short wood fibers (Finding 33), while kraft linerboard pulp consists of long wood fibers. (Findings 70, 72). Second, the digesters used to produce kraft pulp for linerboard are different from the digesters used to produce semichemical pulp, and they are not used interchangeably. (Wollenberg Tr. 549; Justus Tr. 2269, 2291). Third, since the semichemical medium and kraft liner pulping processes use entirely different chemicals in the cooking process (CX 186V; Campbell Tr. 651; Wollenberg Tr. 547) and since kraft pulping is a "full chemical" process (*i.e.,* the lignin is fully dissolved by chemical means without further refining) while medium pulping combines chemical pulping with mechanical refining (Johnson Tr. 420), the two chemical pulping processes cannot be interchanged with each other. Fourth, since a larger and more sophisticated chemical recovery system is required in kraft liner mills than in semichemical medium mills, because sulfur is used in the kraft process (Cassidy Tr. 763; Cambpell Tr. 649), semichemical medium mills would be unable to produce kraft liner

without adding extensive new equipment. (Johnson, CX 63A49–Z50 IC).

161. Apart from the physical differences between semichemical medium and kraft linerboard pulp and pulping [48] equipment, the use of linerboard pulp to produce medium would entail significant economic penalties. (Wollenberg Tr. 552–53). To begin with, softwood chips used to produce liner generally are more expensive than the hardwood chips typically used to produce medium. (Wollenberg Tr. 570; CX 4A; CX 128I). In addition, the kraft process used for linerboard cooks to a significantly lower yield (about 50%) than the semichemical process used for corrugating medium (which yields about 70% or higher). (Campbell Tr. 649; Cassidy Tr. 765; CX 29B, D; CX 109Z175, Z177; CX 186V; CX 190Z7, Z14). Thus, semichemical pulp is significantly less expensive to produce than kraft pulp—40% less costly at Owens-Illinois, for example (Cassidy Tr. 766, 769; *See also,* Wollenberg Tr. 548, 570)—so that it would not be economical to use linerboard pulp to produce medium even if it were possible to obtain the desired functional properties. (Cassidy Tr. 764; Wollenberg Tr. 549; Locke Tr. 937; CX 435A IC).

162. There are also significant differences between many of the paper machines used to produce liner and the paper machines used to produce medium, so that the degree of practical interchangeability between the two types of machines is quite limited. (*See* Countryman, Tr. 1045–46). First, liner machines typically have a secondary headbox that medium machines do not have, which is used to lay down a finer or colored layer of fiber that gives liner the desired surface characteristics. (Wollenberg Tr. 551–52; Cassidy Tr. 758–59; Countryman Tr. 1046–47). The lack of a secondary headbox means that medium machines could not be effectively used to produce liner. (*See* Brozen Tr. 2784–85). Second, the forming sections on liner and medium machines generally differ due to the different drainage characteristics and desired functional properties of the two types of board. (Wollenberg Tr. 552–53; Campbell Tr. 651). Thus, Weyerhaeuser found that attempting to run hardwood pulp on a machine designed for liner production resulted in "poor machine runnability" and an overload in the machine drive due to poor drainage and increased drag. (CX 109Z202). Third, because a medium sheet is more tender than a liner sheet, medium machines tend to have more felts in the pressing section and smaller open draws between the presses. (Cassidy Tr. 759). In addition, since high load pressing destroys the porosity of the medium sheet, making it form poorly on the corrugator, medium machines tend to have lower pressing loads than liner machines. (Countryman Tr. 1048–49). Finally, because liner generally is made in heavier weights than medium, liner machines typically have

more dryers than medium machines, which could not be used when producing medium without overdrying the sheet and [49] destroying its quality. (Countryman Tr. 1049–50; Wollenberg Tr. 552).

163. Due to these substantial differences between liner and medium machines, the record indicates that only a few machines, which apparently have been designed with flexibility in mind and with certain compromises accepted, are able to economically produce both liner and medium. (Wollenberg Tr. 551, 554–55, 558; Justus Tr. 2287; CX 316B; CX 348H; WX 1200 pppQ IC). Thus, the degree of interchangeability between liner and medium machines generally is quite limited. This, combined with the major differences between the pulp and pulping processes for kraft liner and semichemical medium, make it improbable that a kraft liner or semichemical mill will switch from one product to another, unless the mill initially was designed for redundant capabilities.

164. While the degree of interchangeability between kraft liner and semichemical medium mills is highly limited, there is some indication that mills that produce linerboard from recycled materials may also be able to make recycled medium. (Justus Tr. 2287–88; CX 316B; CX 348H; WX 1200 pppQ). However, recycled linerboard accounts for less than 2.5% of total linerboard production. (Finding 73, n. 7). Accordingly, even assuming that such flexibility exists, it would be inappropriate to include *all* linerboard production within the same relevant product market as medium. (Kamerschen Tr. 1246).

165. Thus, the record is clear that supply-side flexibility between corrugating medium and liner or other paper products is minimal. (Kamerschen Tr. 1244–46). Accordingly, it must be concluded that any actual or potential supply-side substitutability is insufficient to include any other paper product within the same relevant product market as corrugating medium.

166. Evidence of price differentials and industry recognition further support the conclusion that corrugating medium is a relevant product market. (Kamerschen Tr. 1246–50). For example, there is a distinct price for medium as opposed to linerboard (Kamerschen Tr. 1248–50), and there is no evidence of producers or customers of medium switching from medium to other products or from other products to medium, based on changes in relative price differentials. Further, corrugating medium is widely recognized as a separate and distinct market within the industry. (Kamerschen Tr. 1250). Weyerhaeuser's plans and internal business documents report and analyze sales and [50] competitive conditions in medium separately from other products, including linerboard. (*See e.g.*, CX 1A-B; CX 2A; CX 3A; CX 4A IC; CX 7 IC; CX 14; CX 15; CX 18C IC; CX 25Z13, Z14; CX 29R, T; CX 34A-C IC; CX 35 IC; CX 37A, C IC; CX 67; CX 107Z147; CX 109Z191;

CX 110D; CX 113; CX 131; CX 132A; CX 152Z47, Z95, Z97 IC; CX 168; CX 180B, Z23; CX 181B IC). Similarly, internal documents from Menasha and International Paper recognize and treat medium as a separate and distinct product in examining market conditions. (*See e.g.,* CX 206; CX 403 IC). In addition, The American Paper Institute, the industry trade association, collects and reports statistical information on medium ("corrugating material") separately from statistics for other products, such as linerboard and box board (*see* CX 622A, D, G, J, L, N, P, R, S; *see also* CX 614 through CX 621; CX 636 through CX 648; WX 1366 through WX 1339), and *Official Board Markets,* an industry trade publication, reports separate prices for medium as opposed to other products. (*See* CX 60A; CX 625A; CX 626A).

167. On the basis of all the evidence of record, therefore, the relevant product market for purposes of analyzing this acquisition is corrugating medium. It should be noted that even the testimony of Dr. Brozen, respondent's expert, appears to support this conclusion. (Brozen Tr. 2920).

B. *The Georgraphic Market*

168. The weight of the evidence establishes that the relevant geographic market for the purpose of analyzing this acquisition is national in scope. (Findings 169–182, below). However, even if I were to find the 11 western states to be a relevant market, as urged by complaint counsel, I still could not find that this acquisition may have the effect of substantially lessening competition or tending to create a monopoly, for the reasons stated in Findings 178–226, below.

1. The Market Is National In Scope

169. Formulae such as the LOFI-LIFO test of Professors Elzinga and Hogarty which has been relied upon by complaint counsel,[17] are useful in some cases, but they cannot [**51**] substitute for an analysis of the economic factors affecting an industry, where the evidence permits such an analysis. Even Drs. Elzinga and Hogarty have noted that "the absence of substantial shipments in or out of a hypothetical geographic area . . . does not necessarily insulate or determine a geographic market area." (18 Antitrust Bull. at 66, n. 2). In fact, Dr. Elzinga has admitted that the LOFI-LIFO "test is a conservative one which estimates only a minimum size. The actual market may be . . . larger than shipment data would estimate." Elzinga, *Defining Georgraphic Market Boundaries,* 26 Antitrust Bull. 739, 743 (1981). The record evidence shows that to be the case here.

170. The pricing patterns in this industry are the best evidence of

[17] Elzinga & Hogarty, *The Problem of Geographic Market Delineation Revisited: The Case of Coal,* 23 Antitrust Bull. 1 (1978); *The Problem of Geographic Market Delineation in Antimerger Suits,* 18 Antitrust Bull. 45 (1973).

the extent of the geographic market. The historical evidence of lock-step pricing between east and west, with such narrow price differentials (liner was actually sold at the same price nationwide until April 1980), is strong evidence of the existence of single national markets for medium and liner. (Findings 121–123).

171. Complaint counsel would explain the close relationship between west coast and eastern prices and between medium and liner as being brought about by the use of "reference points" by western medium producers. (CF 6–58, n. 1). They further maintain that such use of "reference points" is in itself anticompetitive. (CF 6–58, n. 1). However, if the west coast medium market is an insulated market using eastern prices and liner prices as "reference points" in its quest to set noncompetitive prices, it most certainly would set a higher price. Complaint counsel concede that, overall, the E-W Differential has never exceeded the equilibrium transportation cost difference. (Finding 123). As for a comparison with liner prices, the price differential on the west coast between medium and liner has generally fluctuated between $.75 and $5.75 a ton, with liner being the higher priced, over the last decade. (CX [52] 709B-Z2).[18] Certainly if the west coast medium mills were in an isolated, non-competitive market, as claimed by complaint counsel, medium prices would have been pegged much higher with relationship to these "reference points."

172. The only logical explanation for the lock-step pricing between the east and the west, over such a substantial period of time, is that the two areas are competitively connected. (CX 709).

173. The only seeming disparity in this view of the market is the low level of shipments, historically, between the east and the west. However, this fact is explained by the existence of trade agreements and the extremely small share of western medium consumption represented by the open market. (Findings 141–147, 124–132).

174. The trade arrangements act as a substitute for western shipments by the eastern mills that own western box shops. (Findings 141–147). It is clear that the western mills must keep their medium and liner prices near eastern price levels in order to maintain these exchange relationships. If the price gets out of line, it could strain the agreements to the breaking point, causing additional expenses throughout the systems of the west coast producers (Findings 90–100) and drawing in additional eastern medium for the supply of the west coast box shops of the eastern trade partners. (Findings 145–150; CX 162E; Perry Tr. 2326).

175. As long as prices are kept in line with those of the east, however, and all other factors favoring such exchange agreements stay

[18] A similar pricing pattern between liner and medium existed in eastern markets during this decade. (CX

constant (Findings 92–95), it is to be expected that these eastern mills will not ship much product to their west coast box shops in the absence of an artificial curtailment of supply in that area. (Finding 143).

176. Similarly, the minimal nature of the open market on the west coast also helps explain the small volume of shipments coming into the west coast area from outside sources. The independent box shops cannot be expected to draw in much medium from outside this area, since they only represent 12% of the [**53**] consumption on the west coast. (Finding 131). At the same time, 64% of the medium consumed on the west coast is consumed in the box shops of the companies with western medium mills. (Finding 131). This portion is thus removed from the competitive fray for all practical purposes.[19]

177. Furthermore, there *were* increases in western shipments by eastern mills in 1981 and 1982 (CX 953A). Such shipments take on greater significance when the actual size of the market for which the eastern mills could compete is considered. As previously noted, sixty-four percent of the market was controlled by the western medium mills. (Finding 131). A substantial portion of the remainder was also really unavailable, due to the east-west exchange agreements. (Findings 142–145). The fact that the eastern mills supplied about 8% of western medium needs in 1981 and about 10% of such needs in 1982, is far more impressive under these circumstances. (Finding 137). It is also important to note that the eastern mills selling in the open market on the west coast did so at competitive prices and on competitive terms (Finding 136)[20] and that they would have sold even more in that area if a demand was present at the box shop level (the record shows that the eastern firms have been in the market soliciting additional sales). (Finding 148). In view of these circumstances, the fact that 10% of the medium consumed on the [**54**] west coast *did* come from eastern mills in 1982 (Finding 137) is quite probative.[21]

178. The exchange agreements and the small portion of the market which is competitively available, also help explain away the "natural experiment" cited by complaint counsel's expert Dr. Kamerschen in

[19] However, even these western producers regularly ship medium from their eastern mills to their west coast box shops. (CX 953A).

[20] Complaint counsel fault the eastern shippers for not undercutting the western suppliers in 1981 and 1982 and thus obtaining a bigger portion of the western sales. (*See, e.g.*, CRB 1–29). However, there was an extremely "soft" market for medium sales during the 1981–1982 recession. (Brown Tr. 2516). It is unreasonable to expect the eastern mills to start a price war in distant areas in order to gain more sales in such a recessionary period. (Brown Tr. 2518). They did come in at a competitive price level, which was as much as $54.25 below the OBM or list price (Diforio Tr. 2122 IC; CX 709Z1–Z2; WX 1200 a part IC, m, t part IC, u, bb part IC, uu, aaa, hhh) and they did apparently undercut some western mills in sales to certain customers at some times. (WX 1200u-R; WX 1200 a part IC, m, t part IC, bb part IC, uu, aaa, hhh).

[21] Nor does complaint counsel's argument that some of this eastern medium is of "special" grades detract from this point. (CF 3–24, 3–25). The record shows that the eastern shipments were not limited to special grades (WX 1200a part IC, b part IC, m, u, t part IC, bb part IC, uu, aaa, hhh; *see also*, CF 3–26 and 3–27), and even the shipments of such special grades are an indication of the profitability and feasibility of shipping medium west from the eastern mills.

support of his position that the west coast market is the relevant market area. (CF 3–28 through 3–33). Dr. Kamerschen and complaint counsel contend that since not much additional eastern medium was lured into the west coast box shops in 1981 and 1982, when the E-W Differential jumped from $4.25 to $34.25, this is proof that there is a separate west coast market. (CF 3–28 through 3–33).

179. Aside from the fact that this was a temporary aberration in the E-W Differential (albeit it did last for over 2 years and has yet to go back to the old level) and the fact that eastern producers were attempting to raise their prices by the same amount in the east (Finding 123, n. 11), this argument completely ignores the exchange agreement mechanism and the size of the market available competitively. (Findings 131, 174–177). It also ignores the fact that relatively substantial increases were made in shipments from the east during this period. (Finding 177; CX 953A).

180. The evidence indicates that the west coast box shops had an adequate supply of medium available throughout this, as as well as all other time periods covered by the evidence. (Perry Tr. 2332; Brundage, JX5–J; Watts Tr. 1979–81; Howard Tr. 2065–67 IC; Price Tr. 2206). Any curtailments of production in late 1981 and 1982 were due to the fall off in demand for boxes and, therefore, corrugated board, due to the recession. (Finding 151, n. 15; Findings 238–242, below). Moreover, the price increase on the west coast for medium and liner was perceived by eastern producers as a justified one, as can be **[55]** seen by the fact that they were trying to obtain the same price increase in the east. (CX 709W, Z). Therefore, nothing had happened which would warrant discarding the advantages of the trade agreements (including higher mill nets on the eastern portion of the trade in at least some cases) for the sake of shipping more medium west. (*See* Finding 143).

181. On the other hand, if there were a collusive curtailment of medium supplies to the west coast box shops, the eastern producers would be free to ship in whatever additional medium their box shops needed and the record indicates that they would do so. (Findings 145–151). Also, such curtailment would undoubtedly result in greater success for those eastern mills that have been soliciting additional sales in the open market on the west coast. (Finding 177).

182. The above facts also indicate that transportation costs are not a constricting force. Therefore, since there are no legal obstacles cited by complaint counsel which would tend to narrow the market, the relevant geographic market area must be the national market. Kenneth G. Elzinga, *Defining Geographic Market Boundaries,* 26 Antitrust Bull. 739, 740 (1981).

183. When considered on a national market basis, this acquisition

clearly has no tendency to substantially lessen competition in any line of commerce or create a monopoly. When even a portion of the capacity of the eastern mills is considered along with the capacity of western mills, the concentration level falls below those levels considered potentially injurious by the Justice Department *Merger Guidelines* [Trade Reg. Rep. (CCH) No. 546, at 5 (June 16, 1982)]. (*See* Findings 189–193; and Tables 1 and 2, below). When the total national capacity is considered, then, the concentration level is obviously of no concern. (*See* WX 1355A-C).

C. *If There Were A Western Market*

184. Even if I should ignore these facts and look only at the shipments out of and into the 11 western states (the LOFI-LIFO test) other factors would mitigate against finding anticompetitive effects related to this acquisition.

185. In the first place complaint counsel's market share tabulations are too restrictive. Neither those based upon west coast consumption (CF 4–11, 4–12, Table IV–1), nor those which complaint counsel have calculated based upon capacity (CF 4–12, [**56**] 4–13, Table IV–2), adequately account for factors which would affect the decisions of prospective colluders in this market. (Findings 186–190, below).

186. The consumption market share tables calculated by complaint counsel are based on a market universe that is limited to the current consumption of medium on the west coast. (CF 4–5). This approach ignores the fact that colluders would have to anticipate that their collusion might bring on board additional production for west coast consumption; from swing mills on the west coast and from eastern mills, especially those with west coast box shops. (Findings 126, 128, 129, 133–140). It also ignores the existence of idle capacity on the west coast which would have to be considered as a threat by potential colluders. (WX 1200f-D; WX 1200i-H; WX 1200p-E; WX 1200v-C; WX 1200ee-C; WX 1200ii-G; WX 1200pp-C; WX 1200qq-D; WX 1200ppp-C,O). No collusion would be likely unless the conspirators were reasonably certain that their actions would not be undermined by these sources. The profit in containerboard for the large integrated companies is primarily made at the box shop level. (Wollenberg Tr. 609–10; Brozen Tr. 2773–74). So long as this other capacity was available to supply competing box shops the colluders could not afford to jeopardize their position in this end of the market by curtailing shipments to their own and competing box shops. Since current consumption figures fail to consider these very real factors in the market, they are deficient for the purposes of this case. The preferred basis for calculating market shares is, therefore, capacity.

187. Although complaint counsel did calculate market shares on a

capacity basis also, they failed to adequately account therein for all of the capacity available on the west coast and the true potential of the eastern mills to provide for any deficiencies in the west coast medium supply. (Findings 141–151 above; and 188–190 below).

188. In calculating west coast market shares based on capacity, complaint counsel include eastern mills only to the extent those mills have shipped to the west coast states in the past. (CF at p. 69, Table IV–2). This methodology again fails to account for the demonstrated intent of eastern mills with western box shops to keep those box shops adquately supplied. (Findings 142–147). It also fails to consider the fact that these and other eastern mills have solicited additional medium sales in the west. (Watts Tr. 2001–02; Price Tr. 2232; Diforio Tr. 2116–17; Brundage, JX5 F-H). [57]

189. While it is impossible to precisely determine how much of the capacity of the eastern mills should be included in any determination of market shares in a "west coast market," such determination should at least include that portion of an eastern company's capacity which would be necessary to supply its own west coast box shops in the event the medium supply to those box shops were cut off. (Findings 142–147). This would still be a conservative figure, since it would not account for the fact that most of these companies also have sold on the west coast open market in the past. (Finding 148).

190. As for the other eastern companies which have been selling medium in the west, there is no record basis, other than their past sales, upon which to base a projection of their possible sales in the event of a collusive curtailment of production on the west coast. However, as the figures below will show, the concentration ratios fall below the critical level even without projecting any increased sales levels for these companies. (Tables 1 and 2 below, and Appendices II and III). Therefore, I have taken a conservative approach and included such companies only at the level of their 1982 sales in the west.[22]

191. With these considerations in mind I have calculated market shares, based on capacity, as follows: [58]

Table 1

Pre-Acquisition Market Shares - Top 8 and Cumulative - Based on 1982 Capacity Data

Company	1982 Capacity	% of Total	HHI
Willamette	202,279	13.0%	169.00
Crown Zellerbach	175,725	11.3%	127.69
Menasha	152,911	9.8%	96.04
Georgia Pacific	142,000	9.1%	82.81
Longview Fibre	133,125	8.5%	72.25

[22] I have not adopted respondent's proposal to consider 10%–25% of the capacity of these eastern mills (RRB, App. B), since there is no record support for this position.

Weyerhaeuser	121,730	7.8%	60.84
Container Corp.	109,804	7.0%	49.00
Boise Cascade	97,625	6.3%	39.69
All Others	422,640	26.9%	101.82
Total HHI			799.14

CR–2 24.3%
CR–4 43.2%
CR–8 72.8%

(*See* Appendix II for details) **[59]**

Table 2

Post-Acquisition Market Shares - Top 8 and Cumulative - Based on 1982 Capacity Data

Company	1982 Capacity	% of Total	HHI
Weyerhaeuser	274,380	17.6%	309.76
Willamette	202,279	13.0%	169.00
Crown Zellerbach	157,725	11.3%	127.69
Georgia Pacific	142,000	9.1%	82.81
Longview Fibre	133,125	8.5%	72.25
Container Corp.	109,804	7.0%	49.00
Boise Cascade	97,625	6.3%	39.69
Louisiana Pacific	95,850	6.2%	38.44
All Others	327,051	20.7%	63.38
Total HHI			952.02

CR–2 30.6%
CR–4 51%
CR–8 79%

(*See* Appendix III for details) **[60]**

192. As previously noted, these tabulations are conservative ones, since there is much capacity excluded from my tabulations. For example, the volumes of medium consumed in the western box shops of Southwest Forest Industries and Union Camp Corp. are not included, despite the fact that both of these companies produce liner, which is easily traded for medium. (WX 1200ccc; WX 1200iii; Findings 90–97, 128, 129). Also, as noted in Finding 190 above, the figures for eastern shippers having no west coast box shops are understated, since they do not reflect market conditions wherein the supply has been curtailed due to collusion rather than box shop demand. Then too, even the capacity figures for the eastern companies with western box shops are understated, since they do not include any sales on the open market, despite the fact that most of these companies have made such sales in the past. (Findings 148, 189). Furthermore, my tabulations do not include sales by brokers or Belkin Paperboard of Canada. (Findings 134, 137).

193. In view of the fact that the post-acquisition HHI is still well below the critical level discussed in the Justice Department *Guidelines,* and considering the other factors noted in my findings below,

the evidence herein fails to establish that this acquisition may substantially lessen competition, or tend to create a monopoly, in any line of commerce.

D. *Entry Barriers*

194. Contrary to the contentions of complaint counsel (CF 5–1, *et seq.*), entry barriers are very low in the "west coast medium market," especially for expansion into the west coast market by eastern mills and the incremental expansion of the capacity and production of western mills. (Findings 195–225, below).

1. Capital Costs

195. Complaint counsel and their expert, Dr. Kasmerschen, rely heavily on the capital costs of entry as a barrier to entry in the west coast medium market. (CF 5–3 *et seq.;* Kamerschen Tr. 1325). The capital cost of constructing a new semichemical mill is substantial. Estimates of the cost varied, but Mr. Clark Johnson of Virginia Fibre stated that, based on recent estimates it would cost approximately $180 million to construct a 600 ton-per-day or scale-sized semichemical medium mill. (Johnson Tr. 455). On the other hand, Mr. Locke testified that its new Pine Hill, Alabama medium facility was approximately $150 million out of the total cost of $220 million spent to both [61] increase liner production and add medium production at that plant. (Locke Tr. 972).

196. The cost of constructing a new recycled mill is less than the cost of constructing a semichemical mill, primarily because a recycled mill has less expensive pulping facilities than does a semichemical mill. [***] Other estimates concerning the cost of a recycled mill varied somewhat from this figure, but such estimates generally were with regard to a mill larger than 300 tons per day. (Countryman Tr. 1075–76). In short, the available evidence suggests that a new efficient scale-sized recycled medium mill could be constructed for somewhere between $75 million and $100 million.

197. While the cost of a new mill, semichemical or recycled, is considerable, its size must be assessed in the context of the capital required for other primary facilities. As explained by Mr. Clephane, medium mills tend to be less expensive than other paper facilities because the "market scale" for a medium mill "is considerably smaller than what is viewed to be a market scale investment in other parts of the paper industry such as linerboard, market pulp, newsprint, things like that. And secondly, the capital cost per ton is lower for medium than it is for basically any other single product within the paper industry. Particularly, when you think about recycled medium facilities." (Clephane Tr. 2608).

198. The capital cost of a medium mill must also be viewed in light of the sums being spent by forest products companies for various operations. International Paper spent $600 million for its new Mansfield, Louisiana containerboard complex. (Brown Tr. 2454). Similarly, MacMillan Bloedel expended approximately $220 million to upgrade the liner capacity and to add medium capacity to its Pine Hill, Alabama complex. (Locke Tr. 926). Other examples of massive commitments of capital by the industry are found in Weyerhaeuser's expenditure of "over a billion dollar[s]" for capacity expansions in its fiber businesses since [62] 1975 and Champion's current construction of a hardwood pulp mill in Quinnesec, Michigan at a cost of $500 million. (Waechter Tr. 1688; Diforio Tr. 2099; *see also,* WX 1331 A-R).

199. Most significant, however, is the fact that there was no testimony that any company has been unable to obtain the capital financing required for *any* primary mill facility. (Locke Tr. 976). While this is not surprising, given the overall size of the companies involved in the industry, the ability to obtain financing extends to even small independent operations, such as Virginia Fibre. (Johnson Tr. 449–50, 453). Nor is Virginia Fibre unique in the industry. Its founder came from another independent containerboard producer, Great Southern, which operates a large liner-medium complex in Cedar Springs, Georgia. (Johnson Tr. 443–44; WX 1303 C).

200. Finally, the existence of plans for new medium producing facilities, both semichemical and recycled, including plans for a recycled plant on the west coast, is proof that the capital cost of such entry, although very high, is not a barrier. (Countryman Tr. 1079–83; Diforio Tr. 2100–01; [***] Justus Tr. 2294–96 IC; WX 1207; WX 1217 A-C; WX 1506 B; CX 411Y IC; CX 427 Z9).[23] Although most, if not all, of these plans have been postponed due to the "soft" market conditions during the recent recession, such plans are proof that capital costs are not a barrier to entry. (Countryman Tr. 1079–83; Diforio Tr. 2100–01; [***]). As Professor Bain, one of the authorities cited by complaint counsel (CF 5–2), has stated:

> Entry cost as a barrier to entry is a relative thing. A mere showing that there are high capital requirements does not establish the existence of a significant [63] entry barrier. It must be proven that such capital requirements are beyond the capabilities of the potential entrants. [Bain, *Industrial Organization 251–253 (1959)*].

[23] There is evidence showing that, as of September 1982, Inland Container Corporation intended to build a new recycled paperboard mill at Ontario, California. (WX 1217A-C). A witness scheduled to appear from this company was cancelled. Thus, it might be inferred that such plans have been postponed or cancelled. However, the fact that plans had gone so far as to allow the filing of an application for permits to construct and operate this plant is evidence that there is no substantial barrier to such construction. (WX 1217A-C).

2. Economies of Scale

201. Complaint counsel and their expert also refer to economies of scale as a barrier to new entry in this industry. (Kamerschen Tr. 1330; CF 5–10 through 5–13). However, the existence of building plans by various companies also belies this contention. This contention also ignores the possibility of expansion of facilities in the west and other parts of the country to serve the west coast area. Another of complaint counsel's experts, Mr. Charles Pidano, conceded that a Weyerhaeuser study showed the expansion of Weyerhaeuser's Valliant, Oklahoma mill (an eastern mill by complaint counsel's market definition) had the "best economics," out of several alternatives, for the supply of medium to the west coast. (Pidano Tr. 1218–19 IC).

3. Lead Times

202. While there are a variety of estimates in the record concerning the lead time for building a new semichemical mill, the parties have stipulated that, after it has been decided that a new mill should be constructed, production occurs three or more years later (CX 651, Stip. 64). If anything, the evidence indicates that from the date of a Board of Directors decision, the construction time is less than three years. For instance, International Paper constructed its Mansfield, Louisiana complex within 2–½ years of authorization and MacMillan Bloedel constructed its new medium facility within approximately 2 years of Board approval. (Brown Tr. 2445, 2447; Locke Tr. 922).

203. The time between the beginning of construction and the commencement of operation for a recycled mill is approximately two years. (Waechter Tr. 1711). According to Mr. Justus of Beloit, the "full line" of equipment could be ordered, installed, and operating "in about two years." (Justus Tr. 2294–96 IC).

204. Thus, with regard to either recycled or semichemical mills, new mills can be built within the approximate time frame of two years used in the *Guidelines.* Then too, the initiation of construction itself would deter present producers from **[64]** artificially raising prices, since their customers would also realize that new suppliers would be available in the near future.

4. Environmental Restrictions

205. Complaint counsel's contention that environmental laws present a substantial barrier to entry are highly speculative and unsupported by factual evidence. (CF 5–23 *et. seq.;* Kamerschen Tr. 1339). The record fails to reveal any plans for construction or expansion which have been cancelled due to environmental restrictions

(Countryman Tr. 1079–83; Diforio Tr. 2100–01; [***] Justus Tr. 2294–96 IC).

5. Access to Mill Sites and Raw Materials

206. There does appear to be a shortage of attractive mill sites for new semichemical medium facilities on the west coast. (CX 101F; CX 25Z2). However, there is no evidence of record revealing a lack of possible sites for recycled mills on the west coast. (Celephane Tr. 2614–15). Nor does it appear that there is a shortage of sites for semichemical mills in other parts of the country. (Kamerschen Tr. 1502; Johnson Tr. 445; Countryman Tr. 1069; Diforio Tr. 2098–99; Brown Tr. 2471–72; CX 413B IC).

207. Complaint counsel cite to possible shortages of OCC (old corrugated container) as a barrier to construction of recycled mills. (CF 5–32, 5–34). The evidence they cite refers to a shortage of OCC in 1979, due to a substantial increase in exports and indicates a need to improve the OCC collection network if such situation persists. (CX 633–635; Countryman 1066–67). Oddly enough, the witness to whom complaint counsel cite in support of this contention, Mr. Countryman, refers to this as "a rather unique incident." (Countryman Tr. 1066). The fact that Willamette is in the process of expanding its recycled medium facilities by 180 tons per day and also that there are plans in existence for another company to build a new recycled plant in California, would indicate that this is not a continuing problem. (CX 348L, J; WX 1217 A-C). Conversion of facilities to recycled medium production in other parts of the country also indicate that the industry believes there is an adequate supply of OCC. (WX 1200j-E; [***]).

208. Complaint counsel also contend that wide and frequent fluctuations in OCC prices would deter entry into the **[65]** manufacture of recycled medium. (CF 5–33). However, witnesses have cited these very same cost fluctuations as being an advantage for a recycled mill. They note that the attractiveness of OCC stems from the fact that its price tends to move in the same direction as the price of containerboard in general. (Countryman Tr. 1102; Brown Tr. 2463–64). As explained by Mr. Brown of International Paper,

> [O]ne of the advantages of having recycled fiber as your source of fiber is that the cost of your raw material fluctuates in concert with the cost of your product. So in soft markets when you may find discounting of the medium prices, you are probably going to find prices of the old corrugated containers that are used as the raw material being depressed as well. So you can essentially lock in a margin that . . . moves with the price fluctuations or economic fluctations of your product. (Brown Tr. 2463–64).

6. Costs for New Mills

209. Complaint counsel also contend that new mills would be faced with significantly higher capital costs than established firms in the market and that such higher capital costs would more than offset any operating cost efficiencies that could be gained through such new mills. (CF 5–9). The internal Weyerhaeuser documents used to support this contention generally refer to the relative advantages or disadvantages, from a cost standpoint, between a new mill constructed in the 1980's and one constructed during the 1970's, as compared to advantages which new mills constructed in the 1970's had over mills constructed prior to that time. (CX 182P-Q; CX 109Z185; CX 171I IC; CX 147Z156 IC). Thus, at most, the documents suggest that operating cost reductions in new mills vis-a-vis *scale size* mills built *after* 1970 are offset by increased capital costs. (*Id.*) The weight of the evidence, however, indicates that there is still a cost advantage for a new mill, as compared to the average cost within this industry. Mr. Clarke Johnson of Virginia Fibre, for example, when asked if he agreed with the statement that the total costs per ton for new mills are no longer favorable to those of existing mills, testified

> [T]hat implies that the newer mills are not more efficient than older mills. And I would have to say any time you build a new mill, [66] when you are talking about old mills as a group, there could be some very old mills who are very inefficient in energy utilization or whatever, whereas a new mill is built to be highly energy efficient. So as a general statement, I would have to disagree with it. (Johnson Tr. 490).

Mr. Johnson was including the cost of complying with environmental regulations in making this comparison. (Johnson Tr. 490). Mr. Locke of MacMillan Bloedel also testified that "[i]t is our belief that the newer mills have better cost effectiveness, total cost effectiveness than most older mills." (Locke Tr. 973). The cost effectiveness of new mills is also supported by the testimony of other knowledgeable witnesses, with first-hand experience with new mills. (Justus Tr. 2286; Brown Tr. 2472–73, 2475 IC). As explained by Mr. Brown of International Paper, which has recently constructed a new mill complex at Mansfield, Louisiana (WX 1200jj-B), "including fixed costs and including depreciation, you could say that at startup a new mill in total cost terms may not be lower cost than the most, the lowest cost existing facility . . . But I would say in terms of the average cost of the industry, certainly a new mill on a total cost basis would be lower than the average cost of the industry." (Brown Tr. 2473). In this regard it should be noted that of the thirteen mills on the west coast, eleven were built before 1970. (CX 305C; CX 312C; CX 316C; CX 319C; CX

CX 170C). A new mill would enjoy a considerable cost advantage over these eleven mills. (*See, e.g.,* CX 182Q). Of the remaining two mills, one was started before 1970 (CX 348C) and neither approaches the estimates in the record of scale size (600–650 TPD). (*Id.;* CX 319C).

210. Further, as Mr. Brown explained, comparing new mills with existing mills on the basis of *total* costs is meaningless in assessing the cost competitiveness of the mills.

> [R]eally what we look at are the variable costs. And what we want to assure ourselves is that we will be lowest or as low as possible in the variable cost of the operation of the facility . . . It is the way we analyze major capital investments. Probably the primary financial indicator we use is the discounted cash flow return on investment. And cash flow means adding the [67] net income of the operation plus the noncash charges. And depreciation is considered to be a noncash charge. So essentially you are adding that depreciation back and determining the annual cash flows from the investment. (Brown Tr. 2473–74).

211. Mr. Brown's view on measuring the cost effectiveness of new mills was confirmed by Mr. Thomas Clephane, a forest products industry financial analyst. Mr. Clephane explained that companies in this industry "are generally looking at variable cost in comparing the profitability of the new facility with the average for the plants in existence." (Clephane Tr. 2609).

7. Entry By Eastern Mills

212. Next, and possibly most importantly, complaint counsel's discussion of barriers does not consider the potential of entry into the "west coast market" by eastern mills. Dr. Kamerschen conceded that most of the conditions of entry which he discussed, such as environmental restrictions, lead time for construction, availability of raw materials and sites, economies of scale, capital costs, etc., have no bearing on the ability of eastern producers to enter the west coast through shipments. (Kamerschen Tr. 1499–1501). Because assessment of entry conditions (like product and geographic market definition) is to be based on the assumption of a collusive price increase, shipments are a particularly likely means of new entry. Since shipments are already "economically feasible" (Findings 133–140, 142), those made in response to an artificial price increase necessarily would be even more attractive. Indeed, the evidence showed that a large number of eastern producers would ship in response to the economic incentives such a price increase would provide. (Cassidy Tr. 862–63 IC, 871; Campbell Tr. 682; Locke Tr. 988 IC; Perry Tr. 2339, 2343 IC, 2345–47 IC; Price Tr. 2209; Diforio Tr. 2126, 2130–31).

213. Eastern mills also can readily increase their total production to respond to increased demand on the west coast. Thus, the enhanced

attractiveness of shipments in the event of a collusive price increase would lead these producers to utilize fully their existing capacity, to incrementally expand production, and to divert shipments from the east in order to serve the west coast. (Findings 133–151). [68]

214. As discussed previously, incremental expansion through modernization, debottlenecking and technological improvement is an ongoing, routine and relatively inexpensive means of bringing on new capacity in the industry. (Finding 150; *See also,* Kamerschen Tr. 1330). Moreover, these forms of increasing capacity can result in significant increases in output, often up to 25 percent or more, within a short period of time. (Justus Tr. 2278). Thus, present and potential eastern shippers and existing firms on the west coast can readily and substantially increase their capacity to service the west coast consumers whose supply of medium would be constrained by any attempted collusion.

215. Such possibility is enhanced by the fact that mills in other sections of the country, particularly the southeast, have significantly lower costs than the west coast mills. Mr. Timothy Campbell of Southwest Forest Industries testified that the south had the following advantages:

> First would be lower wood costs. Secondly would be a more favorable labor climate. Certainly it would be easier to get the necessary environmental permits in most of the southern states as compared to Oregon, Washington or California. (Campbell Tr. 696–97).

Mr. Edward Locke of MacMillan Bloedel counted among the cost advantages of the south such considerations as

> [a]bundant supply of wood, abundant source of energy, good labor environment, good supply of labor. (Locke Tr. 977).

The weight of the testimony and evidence of record reveals that medium mills in the southeastern United States have a substantial cost advantage over those medium mills located in the Pacific Northwest. (Johnson Tr. 491; Countryman Tr. 1106; Presson Tr. 1563; Brown Tr. 2469, 2476 IC, 2479–80 IC; Diforio Tr. 2106 IC; Clephane Tr. 2610–13; WX 1179 A IC; WX 1702A127–A130). Other evidence of record substantiates this, because it indicates that past shipments to the west coast by eastern mills have been at competitive prices and service terms and have been profitable. (Findings 136, 148, 176).

216. Therefore, since there are no barriers to entry by these eastern mills, and considering the cost advantages which the southern mills enjoy, along with their record of past [69] shipments and the deter-

shops adequately supplied, it is to be expected that any collusive activity among west cost mills would lead to a more substantial entry by eastern mills. (Findings 142, 212–215).

8. Expansion By Western Mills

217. Another important form of entry, in the event of a collusive market, is the expansion of capacity by existing western medium mills. All west coast medium suppliers would not be expected to participate in a collusive curtailment of supply. (Brozen Tr. 2826–27). Dr. Kamerschen, though he was unwilling to identify any of the individual firms that would collude, did acknowledge that those with a smaller share of the market would be less likely to do so. (Kamerschen Tr. 1464–70).

218. Not only do most of the west coast mills already have excess capacity (WX 1159; WX 1200f, p, v, z, ee, ii, pp, qq, ppp), but it is easy and inexpensive to add incremental capacity to existing mills in this industry. (Finding 150).[24] In fact, the western mills have been adding substantial capacity in the recent past and many have plans for further expansion in the near future. For example, Menasha invested $2.8 million to expand the capacity of the North Bend mill in 1976–77. (CX 48Z27). Weyerhaeuser has also invested, and has stated an intent to make further investments, in order to expand the capacity of the North Bend mill. (CX 172; CX 651 Stip. 84). Most recently, Willamette invested $25.6 million to expand the capacity of its Port Hueneme, California mill. (CX 348L). Other west coast medium producers either have expanded or have plans to expand their capacity. (CX 319D; CX 332D; CX 312D, N) **[70]**

219. Thus, there would be a number of remaining firms that would have a strong incentive to expand their own capacity incrementally in response to any collusion by others. The smaller firms in the market, for example, would be important factors in deterring collusive behavior. The record shows that some of these firms were aggressive in their pricing during the recent recession and that they are important suppliers to the open market. (WX 1200 a D-N part IC; WX 1200b C-E part IC; WX 1200t S-A1, A4–A16 part IC, A21–A24; WX 1200u J, K, N-Z; WX 1200 bb A6–A32 IC, A35–A48, A276–A494; WX 1200uu B, C, D; WX 1200aaa H, L, P-Q, W, Z; 1200hhh B-E, H). Therefore, their pricing practices have an important bearing on open market prices, which, in turn, have a direct effect on OBM prices and the price

[24] Complaint counsel discount the possibility of some of the smaller west coast firms adding incremental capacity. (CF 5–46 through 5–54). They refer to Longview Fibre, Louisiana Pacific, Inland, Newark and Specialty Paper as having smaller width machines which are allegedly not as adaptable as larger machines to incremental expansion. However, Mr. Justus of Beloit Corporation was not that restrictive in his testimony concerning the possibility of expansion. (Justus Tr. 2278, 2280). Moreover, complaint counsel have mistakenly included Longview Fibre in this group, since it has two 165 inch machines which are capable of producing medium. (Wollenberg Tr. 549, 551). WX 1200f-D; WX 1200ee-C; WX 1200vv-H).

structure of the medium market. (Finding 120). Their influence on the market is further enhanced by the small size of the open market in this industry. (Finding 131).

9. Swing Mills

220. The presence of swing mills on the west coast also enhances the probability that non-colluding west coast mills would increase production in response to any collusive curtailment of supply. (Findings 81–82). Indeed, the fundamental purpose of a swing machine is to provide the manufacturer with the flexibility of producing various products based on relative economics. Thus, as explained by Mr. Locke of MacMillan Bloedel, "[m]ills that have multiple product capabilities always manufacture those products" with "the highest return." (Locke Tr. 977). Likewise, mills that are designed to swing between liner and kraft sack typically produce the product that has the greatest demand or the best return for the manufacturer. (Wollenberg Tr. 550).

221. The likelihood that west coast swing mills would produce more medium than they do now should a curtailment occur is further confirmed by the fact that those mills obviously find it profitable to swing to medium from time to time at present prices. If medium prices were to rise relative to liner prices due to a curtailment of medium supply, Crown Zellerbach and Longview Fibre would obviously find it relatively more profitable to make medium and could be expected to respond accordingly. (Brozen Tr. 2756, 2762, 3365).

222. The sensitivity of swing mills to market conditions is borne out by the fact that there have been fluctuations in the [71] amount of medium and liner produced at such mills. For instance, while in 1981 Crown's Antioch mill produced 17,537 tons of medium, in 1980 it produced zero tons, but in the preceding year, 1979, the figure was 12,774 tons. Similarly, in 1977, it produced 10,229 tons, while in 1978 it produced 17,034 tons. (CX 702C, E, G, K, I). Further evidence of the sensitivity of swing mill production to competitive conditions is found in the testimony of Mr. Wollenberg of Longview Fibre that "there [are] no hard and fast rules. We look very hard at the economics in each case" in deciding whether swinging to another product makes sense. (Wollenberg Tr. 550).

223. In the past, swings between medium and liner, while showing fluctuations and profit sensitivity, have been influenced by the fact that domestic prices for the complementary products of liner and medium have traditionally moved together, with liner prices being higher. (CX 709 A-Z2; CX 710 A-D). Under complaint counsel's theory, however, the price of medium alone would rise. A 5% medium price increase, for example, would make the per-ton price of 26 pound

medium higher than the per-ton price of 42 pound liner. Any historical balance in the use of swing capacity would necessarily be affected by this change in relative prices. (Findings 221–222).

224. Dr. Kamerschen implicitly admitted the strength of the competitive interrelationship between liner and medium not only by including swing mills in one of his calculations of concentration (CX 703 A-N), but also by suggesting that a shift from liner to medium by firms such as Crown Zellerbach would put upward pressure on the price of liner by reducing the supply of liner. (Kamerschen Tr. 1309). Under this reasoning, however, the downward force on the price of medium exerted by swing mills would be even greater. For instance, Crown's Antioch facility produced 165,096 tons of liner in 1981 or 6 percent of all liner produced on the west coast. (WX 1200v S; WX 1356 A-B). On the other hand, Crown's potential medium production in 1981 would have constituted 17 percent of the total medium produced on the west coast. (CX 316D; WX 1354 A part IC). If Dr. Kamerschen believes that withdrawing 6 percent of the supply of liner would have an impact on liner prices, then the increase of 17 percent in medium production would necessarily have a far greater impact on the price of medium. Indeed, under these circumstances, it would appear that Crown Zellerbach would only have to direct a small portion of its liner production to medium before the price of medium would be affected. [72]

225. Dr. Kamerschen sought to discount the significance of swing mills by characterizing them as tending to be higher-cost facilities than mills that make only one product. (Kamerschen Tr. 1307). However, the cost of a swing mill compared to other mills is immaterial in assessing whether the mill will shift from one product to another. Because a swing mill has a given cost structure to begin with, it is only concerned with producing whichever product is most profitable to it. (Brozen Tr. 3365).

E. *Concentration Trends And The Volatility of Market Shares*

226. The market shares of the leading firms have been relatively unstable over the past several years. Even under complaint counsel's market share tabulations there have been significant shifts in market positions during the period 1977–1981. (CF at p. 67, Table IV–1). In 1977 Container Corp. would rank number 2 under those tabulations, although by 1979 it had fallen to fifth place. Menasha climbed from fourth place to second between 1979 and 1980. Weyerhaeuser moved from sixth to fourth. Boise Cascade fell from fourth to as low as seventh and went back up to sixth during this short time period. Louisiana Pacific, which complaint counsel would place in the number eight position in the market in 1981, was number 4 in only 1979

(and number 9 in the interim year, 1980). (*Id.*). Moreover, there is no indication in the record of a significant trend toward concentration prior to this acquisition.

F. *Claims of Collusive Behavior*

1. Claims of Past Non-Competitive Behavior

227. Complaint counsel's claims of past non-competitive behavior are based on innuendo rather than facts. (CB at 224; CF 6–45 through 6–72). Even their own expert, Dr. Kamerschen, failed to reach the conclusion that the west coast medium market is now, or has been in the past, non-competitive. (Kamerschen Tr. 1371; *See also,* Tr. 1352, 1358–59, 1367–68, 1432–33, 1520). The principal contention in this regard is that Weyerhaeuser and others in the west coast market have collusively engaged in the practice of taking market related downtime in order to maintain or raise prices. (CF 6–59 through 6–72). Yet, complaint counsel have only been able to point to two periods when market related downtime has been taken (CF 6–61, 6–66) and, in each instance, such down time has been dictated by market conditions and has had substantial business justification. (Findings 228–242, below). In fact, in both instances, such market downtime occurred on a nationwide basis. [73] (CX 622D, J, L; CX 155; CX 157). Moreover, in at least the 1974–75 period, the reduction in production of medium and liner was substantially greater in the rest of the nation than in the west. (CX 622D, L).

228. Furthermore, although prices appear to have remained stable in the 1974–1975 period of market downtime (CX 709F-J),[25] they did not remain stable during the 1981–1982 recessionary period. The record shows that discounting accompanied the recession which started in the last quarter of 1981. (CX 155B-C; WX 1200a D-N part IC; WX 1200b C; WX 1200t R, V-W, X-A8 part IC; A21–A24; WX 1200u P-Z; WX 1200bb A6–A31 IC, A276–A395, A421–A494; WX 1200uu D; WX 1200aaa H, L, P-Q, W, Z; WX 1200hhh B-I).

a. *1974–1975*

229. Complaint counsel admit that the period beginning in the last quarter of 1974 and extending into 1975 was characterized by a very sharp decline in the demand for medium, as reflected in the level of

[25] Only OBM prices are available for the 1974–1975 period. (CX 709E-J). No transaction prices are in evidence for that period. If OBM prices were all that were in evidence for the 1981–1982 period, the extent of discounting would be unknown for this period also. (CX 709Z–Z2; WX 1508). OBM did not even pick up the fact that discounting existed on the west coast until late in 1982 and even then it did not report such discounting accurately. (WX 1508Z). By July 1982, long after discounting had actually begun, OBM was reporting that discounts of $20.00 per ton were available on the west coast. (WX 1508Z). In fact, much larger discounts had been available months earlier. (*See, e.g.,* WX 1200a H-I, L-N; *See also,* WX 1200 b C; WX 1200 t R, V-W, X-A8, A21–A24; WX 1200u P-Z; WX 1200bb

box shipments. (CF 6–59). At the same time, they fault respondent Weyerhaeuser and other west coast producers for cutting back on production, primarily through downtime, and maintaining existing price levels. (CF 60, *et seq.*).

230. The 1974–1975 period in question was a very unique period for the containerboard industry on a nationwide basis. [74] The paper industry as a whole (including west coast medium producers) was under price controls from August 15, 1971 until June 30, 1974. (WX 1607 A-G; WX 1107 A-D; WX 1108 A-C; Waechter Tr. 1717–18; Brozen Tr. 2892, 3212–14). During the period of mandatory price controls (from August 1971 through March 1974), the real price of medium on the west coast (the OBM price deflated by the Producers Price Index) declined 11.7% (from $107.95 to $95.28). (WX 1706 B). In March 1973, in order to ameliorate the impact of an expected "bulge in prices when controls ended," the government progressively decontrolled prices through voluntary agreements with the paper industry, among others. (WX 1607 B-C). That arrangement, which allowed a $20 increase in containerboard prices, expired on July 1, 1974. (WX 1107 C). At that time, OBM reported a $30 increase in all containerboard prices.

231. Such post-price control increases were common throughout the economy. (Brozen Tr. 2892). They were expected by the government, because of the pent-up cost pressures from the price controls and the impact of the 1973 Arab oil embargo and the approximate tripling of the landed price of imported crude oil and labor wage demands to recover from the period of wage controls and to pay for higher fuel bills. (WX 1607 D-F).

232. Both before and after March 1974, containerboard producers experienced significantly increasing energy, wood, wastepaper and labor costs. (Waechter Tr. 1718–19; CX 109Z229; WX 1606 F). Containerboard production is more energy-intensive than other industries and it also experienced significant escalations in wood chip prices. (Brozen Tr. 3228; CX 26 N, Q; CX 830 Z13–Z14). These increased costs were coupled with strong demands, as box buyers built inventories of finished boxes in anticipation of the release of price controls. (Waechter Tr. 1718).

233. The cost pressures continued, notwithstanding a "very precipitous drop off in demand that began in October of '74." (Waechter Tr. 1717–18; WX 1713; CX 106C). The "abrupt" decline was unique because of the prior "hoarding" of finished boxes. (*Id.*) Liner and medium production, east and west, all dramatically declined in response to this drop in demand. (WX 1735 A-C). Mr. Wollenberg of Longview Fibre testified that he shut down his entire eleven paper machine mill complex. (Wollenberg Tr. 618–19).

234. Despite the downturn in demand, Weyerhaeuser was experiencing rising costs, which squeezed price/cost margins. **[75]** As Mr. Waechter explained:

> [T]his terrible dropoff in demand took place and yet we had a period of ever-increasing costs: wood costs were going up, labor costs were going up, energy costs were going up at great rates. I think that was coined by the economists as a period of stagflation. We had no demand and yet we had increased costs which put a tremendous pressure on margins. So what was happening to our price of containerboard through that '75 period was, we were getting terribly squeezed in the margin sides by increased costs, and no relief in the nominal price of containerboard and, in fact, we had a real price decrease due to the inflation eating at the margins. (Waechter Tr. 1719).

235. Dr. Kamerschen relied on the broad "generalization" that "if demand falls, the more competitive the market is, the more the price should fall, the less the quantity should fall," in suggesting that the events of 1974–75 might be "evidence" of the "inauguration of a cartel." (Kamerschen Tr. 1367–68, 1370). But even he conceded "I don't mean to suggest that a cartel existed at the time period I want to focus on." (*Id.* at 1368).

236. Dr. Brozen explained that, far from being suspicious, the events of the period were fundamentally at odds with any hypothesis of collusion. The wide dispersion in the amount of output reductions (from 17% for Willamette to 46% for Crown Zellerbach) was inconsistent with a theory of collusion. (Brozen Tr. 2890–91; CX 708A; WX 1413 A-C). "[I]f there had been anticompetitive behavior the cutbacks among the various firms would have been similar in character." (Brozen Tr. 2890). The production of the largest firm, Willamette, declined less than that of the second, third, fifth, sixth and eighth largest producers. (CX 708A). As Dr. Kamerschen acknowledged, "if you are talking about collusion, you would normally not expect one of the top two or three firms to be one of the parties breaking up the collusion." (Kamerschen Tr. 1305).

237. Then too, it is important to note that non-west coast medium production declined more than west coast production (CX 652D, L; WX 1735 A-C), and there was an identical "stability" of OBM reported containerboard prices in the east, as compared to **[76]** that in the west. (CX 709F-J). An examination of production by medium mills in the Southern API region, during the same periods analyzed by complaint counsel for the west coast in CX 708, reveals the same deep production cutbacks and the same random variability among the largest producers. (Table III)

Table 3

Southern Medium Production By Company, 1973.4/1974.1 vs. 1974.4/1975.1

	1973.4/1974.1	1974.4/1975.1	% Change
International Paper	124,088	105.704	−15.0
Mead	113,513	71,389	−37.0
Weyerhaeuser	101,439	82,761	−18.0
Owens-Illinois	95,510	82,858	−13.0
Inland Container	86,564	86,868	− 0.4
Container Co. of Am.	86,093	57,237	−34.0
Continental Can Co.	80,288	54,396	−32.0
Great No. Nekoosa	65,823	51,672	−21.0
[***]	[***]	[***]	[***]
Firm Total	753,318	592,885	−21%
Balance of Reptg. Cos.	273,852	200,879	−27%
Total	1,027,170	793,764	−23%

Sources: Calculated from CX 612, CX 614–CX 616, CX 618 and CX 621.

238. In short, not only were the cutbacks in medium production and the stability of OBM prices of 1974–1975 nationwide phenomena, but they made good business sense. Since this was a period of drastically falling demand and inflationary costs (Findings 230–234), it made little sense for the companies to suffer greater losses by producing medium that they could neither sell nor inventory. (Findings 62–66). Nor did these market conditions offer hope of greater returns through price cutting. (*See, e.g.*, CX 407I, K, M). Accordingly, the market reaction which prevailed at that time is that which one would expect, even in a competitive industry.

b. *1981–1982*

239. The other period of production cutbacks referred to by complaint counsel began in the last quarter of 1981 and was connected with a similar drop-off in demand (although it did not [**77**] occur in the special environment of the discontinuation of price controls, as did the 1974–1975 decline). (CF 6–68, 6–69).

240. This weakening of demand began in the 4th quarter of 1981. (CF 6–68, 6–69; CX 155B-C; CX 157A; CX 163G). Again, the entire medium industry, both east and west, was forced to cut back on production. (CX 157B-D). The record shows that, at least in the west, the cut backs occurred on a random basis, with three of the west coast firms, Crown Zellerbach, Georgia-Pacific, and Longview Fibre, actually showing increases over the first three quarters of the year. The others varied from cutbacks of 10% to 44%, with Louisiana-Pacific taking the 44% curtailment. [*See* table in n. **, at pp. 99–100 RRB,

which complaint counsel have agreed is accurate (Oral Argument Tr. 24)]. Weyerhaeuser was about in the middle, with a 23% cutback, while Willamette, then the number 2 company on the west coast, was on the low side with a 10% cut back. (*Id.*). These figures hardly give evidence of a collusive curtailment.

241. Additionally, discounting was increased at this same time, as was noted in Finding 228 above. For example:

a. As early as September 1981, Thacker Container purchased 26-pound medium at $319.23 (supplier unidentified). Thacker consistently made purchases at this price throughout 1981.4. (WX 1200ggg A3–A7).

b. From September to November 1981, California Paperboard, a non-integrated west coast producer sold 26-pound medium to Corru-Kraft Co. at $315. (WX 1200t Z, A23–A24).

c. In October 1981, Abbey Corrugated purchased 26-pound medium from [***] from Louisiana-Pacific, another integrated west coast producer, for $290; and from LaBoiteaux, a containerboard broker, for $295. (WX 1200a E IC, I, J).

d. Also in October 1981, Longview Fibre, an integrated west coast medium producer, sold 26-pound medium to Commencement Bay, a Tacoma independent, for $294.25. (WX 1200m G).

e. By December 1981, California Paperboard had lowered its price to Corru-Kraft from $315 to $290. (WX 1200t Z, A23). [78]

f. In December 1981, Louisiana-Pacific reduced its price to Abbey from $290 to $270. (WX 1200a I).

g. In January 1982, International Paper, an eastern producer, reduced the price to Crockett Container Corp. to $290. (WX 1200u R).

242. This evidence directly conflicts with complaint counsel's contention that there was "considerable delay" in the decline of prices on the west coast in 1981–1982. (CF 6–72, n. 1).[26] Such evidence also indicates that the 1981–1982 curtailments were not collusive.

243. Just as in the case of the 1974–1975 production curtailments, the cut backs of 1981–1982 were a nationwide phenomenon which were dictated by sound business judgement. Again, it would make little sense for these companies to produce medium they could neither sell, nor inventory. (Findings 238–239, 237).

[26] It is interesting to note that complaint counsel cite to WX 1200hhh D-E to support this contention. Those pages show Louisiana Pacific selling to Tharco Industries at $320 ($4.25 under OBM) from October through April 1982 and reducing its price to $280 in May 1982 and $270.00 in July 1982. However, pages B and C of that exhibit show this corrugater buying the bulk of its needs from Longview Fibre at $294.25 for the entire period July 1981 through September 1982—a price $30.00 under the OBM price. (WX 1200hhh B-C).

c. *Allegations of Other Production Curtailments*

244. Complaint counsel state that market related downtime is "not uncommon" on the west coast. (CF 7–5, n. 2). However, the record is devoid of evidence of any production cut backs in the west coast medium supply other than those in 1974–1975 and 1981–1982. The most complaint counsel have been able to show is that "[s]ome medium mills have taken downtime during March [1980] due to a lack of orders" (CX 148C), and a number of references to the possibility of taking market-related downtime in some internal Weyerhaeuser planning documents. (CF 6–66). This is hardly evidence of a history of market related curtailments designed to increase or maintain prices in the market. [**79**] Moreover, the testimony of Messrs. Waechter and Presson is uncontradicted that Weyerhaeuser has taken market-related downtime only twice in their respective 17 and 19 years experience with that company. (Waechter Tr. 1715; Presson Tr. 1600–01).

2. The Volatility of Containerboard Prices

245. Dr. Kamerschen suggested that there has been a "fairly stable pattern" of containerboard prices, in absolute terms, on the west coast and, in relative terms, compared to eastern prices. His comments were based on a review of OBM reported prices (CX 710A-D), which complaint counsel requested him to assume were representative of the actual transaction prices in the marketplace at the time they were published. (Kamerschen Tr. 1378–83, 1247–48, 1509). While OBM may be an indicator of long term trends in containerboard prices (Brozen Tr. 2839), the record reflects that OBM reported prices are not a reliable basis for measuring the economic significance of the volatility or variability of containerboard prices at any specific point in time. As Dr. Brozen explained, that requires an analysis of actual transaction prices because "it has always been found that the transaction prices are more volatile than the list prices which are usually reported" by organizations like OBM. (Brozen Tr. 2895). [(*See also* Kamerschen, *Antitrust Alchemy; Liquid Asphalt to Black Gold,* 9 North Carolina L. J., 178, 185 (1978) ("And it is these actual transaction prices and not list or book prices that are of major concern to an economist.")]

246. OBM reported prices are based on unspecified contacts by OBM with unidentified independent box producers (Kamerschen Tr. 1516); prices are not reported to OBM by producers. (Johnson Tr. 504; Wollenberg Tr. 590–91; Campbell Tr. 701; Cassidy Tr. 801 IC; Diforio Tr. 2130). OBM expressly disclaims that its reported price portrays the range of transaction prices at any given time:

The prices tabulated here are intended only as a reference standard to the current levels commonly prevailing in a representative proportion of U.S. contract transactions, as announced to customers by major board producers. The prices listed do not connote any agreement or commitment by any producer to sell material at the price indicated, or at any price predicated on the price listed. Transactions may be concluded at any time at [80] any price agreed upon by seller and purchaser. (WX 1508 A–4).[27]

247. Dr. Kamerschen could not quantify the relative accuracy of OBM reported prices to actual transaction prices. (Kamerschen Tr. 1509). He did not review any of Weyerhaeuser's trial exhibits (*Id.* at 1429), although they included actual transaction data from independents on the west coast. (WX 1200a A-A24 part IC; WX 1200b A-F part IC; WX 1200h A-A15; WX 1200m A-L; WX 1200t A-A24 part IC; WX 1200u A-Z; WX 1200bb A-A494 part IC; WX 1200cc A-Y; WX 1200uu A-D; WX 1200ggg A-A15; WX 1200hhh A-I; WX 1225 A-A47).

248. The actual transaction price evidence indicates that prices are considerably more volatile and variable than a review of OBM prices suggests. Medium prices on the west coast appear to be more volatile in periods of declining demand (Kamerschen Tr. 1370; Brozen Tr. 3320–21), as seen from the downward price movements on the west coast in late 1981-early 1982 from around $320 to around $270. (Findings 228, 241). During that same period, OBM was reporting a $324.25 west coast medium price; it was not until July 3, 1982, that OBM noted the availability of "$20 a ton" discounts ($304.25) and not until December 4, 1982 that it reported "$50 per ton" discounts ($274.25). (WX 1508 Z, A–1).

249. As Mr. Waechter of Weyerhaeuser explained, the accuracy of the OBM price "depends a bit on the economic conditions that prevail. Right now, it's probably grossly inaccurate." (Waechter Tr. 1701). The other industry witnesses also consistently testified that the accuracy of the OBM reported price depends on the state of the market. In periods of weak demand, it is "not very accurate." In periods of strong demand the OBM price is "fairly close." (Johnson Tr. 463–64, 505; Wollenberg Tr. 591–92; Campbell Tr. 662, 666, 702; Cassidy Tr. 801–02 IC; Diforio Tr. 2130; Perry Tr. 2350). [81]

250. In any event, volatility is relative. Dr. Kamerschen did not suggest any benchmark. Indeed, he has recognized that competitive performance does not require price changes to reflect every transitory fluctuation in cost and demand:

[E]ven if competition was more flexible in terms of price changes, it could be argued that it is possible to have too much of a good thing. Who wants to live in an economy where the slightest change in demand or supply produces hair-trigger changes in price?

[27] Thus, OBM prices do not even purport to show prices on the spot market, let alone the prices of each medium

Kamerschen, *The Economic Effects of Monopoly: A Lawyer's Guide to Antitrust Economics,* 27 Mercer L. Rev., 1061, 1084–86 (1976).

There, Dr. Kamerschen quoted Dr. Scherer's observation:

My personal opinion is that moderate price rigidity is more likely to have a stabilizing than a destabilizing influence on the economy. Still for the most part the advantages and disadvantages seem to offset one another, so that on balance it may make little difference whether prices are rigid or flexible within the range of variation encountered in ordinary experience. F. Scherer, *Industrial Market Structure and Economic Performance* at 318 (1970).

251. Just as there does not appear to be anything anticompetitive reflected in the degree of volatility of west coast medium prices over time, there is likewise nothing of competitive concern about the relationships between medium and liner prices or between western and eastern prices. (Brozen Tr. 2895–97). The actual transaction evidence in the record establishes that there is again more volatility in the price relationships than the OBM reported prices would suggest (Findings 228, 241; *See also,* RF 634), but there is good reason for the prices to be strongly correlated in any event.

252. The fact that medium and liner prices tend to move together reflects their fundamental and undisputed complementarity. (Findings 152–155). Likewise, the fact that all medium prices, east and west, tend to move together, (as do liner prices) is explained by the fundamental competitive interrelationships between eastern and western production detailed earlier. (Findings 133–151, 169–182). As Dr. Brozen [82] summarized, any temporary pricing "disequilibrium" is corrected by the potential for increased or decreased shipments from the lower cost southern and north central producers to the west coast:

You would be getting the equilibrating flows, as we have already talked about, the 17 mills in the east who are already shipping to the west coast.

So there are flows already occurring and if there were any attempt to hold the west coast price above a competitive level, those flows would increase and bring it into equilibrium. (Brozen Tr. 3367).

253. These pricing trends and competitive relationships only serve to confirm that medium production can most properly be viewed in the context of a national market. As Dr. Brozen explained, "in the national market you would expect that the prices would move similarly in different parts of the country." (Brozen Tr. 3205).

3. Past Antitrust Violations

254. Complaint counsel refer to price fixing involving corrugated sheets and corrugated containers (the end products into which medium is incorporated) in the eastern region of the United States and point out that Weyerhaeuser and other companies with west coast medium mills were involved. (CF 6–36 through 6–38). Although complaint counsel admit that the prior litigation did not involve medium, or the west coast area, they refer to such litigation as evidence of a tendency on the part of Weyerhaeuser and other west coast medium manufacturers to engage in collusion. (CF 6–36 through 6–38). While past anticompetitive conduct can, in the proper case, be considered as evidence of the likelihood of similar future conduct (CB at 226–227), it also might be a deterrent to future similar conduct, especially in instances such as the prior litigation referred to here, where the cost of that conduct was so high. (CF 6–37). Thus, this argument can cut both ways. In any event, the past history of violations here, involving other [83] products in other parts of the country, have little probative value in view of my other findings hereinabove.[28]

4. Nationwide Containerboard Pricing Trends Cannot Be Explained By a West Coast Medium Collusion

255. The events of 1974 and 1975 and the historical relationships between medium and liner prices, east and west, do not square with a theory of collusion among west coast medium producers. The same circumstances would apply to eastern producers as well. Given the number and size distribution of containerboard producers, a nationwide conspiracy hypothesis would be undercut at the threshold by Dr. Kamerschen's own testimony regarding the connection between concentration and collusion. (Brozen Tr. 2893–95). As Dr. Brozen observed, it "would be very odd indeed" for collusive west coast medium prices to move together with competitive liner and eastern medium prices. "I would expect price in the collusive medium market to move in ways different from the way they move in the three competitive markets." (Brozen Tr. 2895–96).

G. *Some Other Issues*

256. Several other issues are argued in the proposed findings and briefs of the parties, which, although they play no part in my decision in view of the above findings, do merit some discussion.

257. As complaint counsel contend, the demand for corrugating

[28] Another factor to be considered in this regard is the localized nature of the geographic market in the case of corrugated sheets and corrugated containers, as compared to the much wider geographic market within which competition occurs in the medium industry. (Cassidy Tr. 873; Presson Tr. 1545–46; WX 1102 Q; CX 22A; CF 2–51,

medium is very inelastic. (CF 6–7, *et seq.*). A rise or fall in the price of medium has little effect on the quantity sold. (Waechter, CX 64Z59, Z62–Z63; Presson, CX 55Z55–Z56; Johnson, CX 63D, Z105; Howard Tr. 2079–80; Campbell Tr. 688–89; CX 407M; WX 1505A; CX 102R, U; Brozen Tr. 2939). In fact the demand for corrugated containers is itself relatively inelastic. (CX 187G; CX 407P; CX 107Z7; CX 44E; CX 601G; CX [84] 602E; CX 603J; CX 604P; CX 606M; CX 607B; Lamm Tr. 1009–10; Nordstrom Tr. 1142–44; Presson CX 65Z56).

258. Corrugating medium is a relatively homogeneous product. Although it comes in a number of basis weights and there are some specialty grades (Findings 25, 29), the vast majority of the medium produced and used is "regular" 26 pound and "regular" 33 pound medium. (Finding 29). Other than meeting minimum quality standards and an occasional runability problem with the medium of a particular mill, box producers are generally indifferent as to which mill or producer supplies their medium. (Campbell Tr. 665; Sanzone Tr. 1809; York Tr. 1938; Aitchinson Tr. 2028–29, 2053; Howard Tr. 2065–66; Price Tr. 2206; Perry Tr. 2353; Presson, CX 65Z18–Z19; Brundage JX 5E).

259. The growth in demand for medium is closely tied to the growth in demand for corrugated containers, since medium is used almost exclusively in the production of corrugated containers. (Finding 22). Demand for corrugated containers has grown and is expected to grow at about the same rate as overall economic activity, as measured for example by GNP. (Campbell Tr. 698; Wollenberg Tr. 631; Waechter Tr. 1654; Kamerschen Tr. 1351; Duffie, JX 3D; CX 25B; CX 107Z2; CX 108F; CX 109Z27, Z28; CX 120L; CX 152Z5 IC; CX 171X IC; CX 180Z1, Z29; CX 185I IC; WX 1713A). Such a growth rate is expected to increase corrugated container demand, and consequently medium demand, by only a few percentage points per year. (CX 67E; CX 18F IC; CX 427Z35 IC).

260. There has been a long term decline in the real price of medium. Containerboard prices as reported by OBM, including the price of medium on the west coast, have fallen, in real terms (*i.e.*, adjusted for inflation), since at least 1966 according to a number of recognized indices, including the Producer Price Index. (WX 1706–1710).

261. Lastly, Menasha was not a significant net seller of medium on the west coast when it owned and operated the North Bend mill. The parties have stipulated that in 1979, Menasha sold only "4.2 percent of the production of the North Bend mill . . . on the open market." (CX 651, Stip. 12). According to Richard L. Johnson, the Chief Executive Officer of Menasha, this level of sales had remained approximately the same for the six previous years. (Johnson JX 6 I). Even more significant, Mr. Johnson testified that, as a matter of company policy,

Menasha sought to match its mill capacity to the requirements of its own box plants; that is, it did not have a net seller strategy. (Johnson JX 6 I-J). [85]

X. FAILURE OF PROOF

262. In view of the above findings, and based upon a careful review of all the evidence, I find that complaint counsel have failed to prove by the weight of the evidence that Weyerhaeuser's acquisition of Menasha's North Bend, Oregon medium mill may substantially lessen competition in any line of commerce in any section of the country, or tend to create a monopoly.

XI. DISCUSSION

This case presents some difficult choices.[29] At first I was inclined to accept complaint counsel's position and find a west coast medium market with an HHI in the "moderately concentrated" range, an increase in the HHI of over 100 as a result of the acquisition, and other factors existing which indicated a violation. However, in trying to support that position, I was faced with a number of facts of record which just wouldn't fit into that mold. Among the factors causing me the most concern were: (1) The lock-step pricing pattern between western and eastern medium and between medium and liner in this industry; (2) The very substantial presence on the west coast of those eastern medium producers with western box shops; and (3) The ability of these and other eastern mills to ship medium west on a profitable basis.

Market definitions are critical to the decision in this matter. On the product market question the evidence, on balance, indicates that corrugating medium is the relevant product market for purposes of analyzing this acquisition. (Findings 155–167). However, a number of facts blur this determination to a certain degree. They are: (1) Liner is easily tradeable for medium (Finding 90); (2) Medium and liner prices show a close price relationship (Finding 171); (3) Some "swing" mills can produce either medium or liner on the same [86] machines (Findings 81–82); (4) Other liner machines can be converted to the production of medium, although the record indicates there would be some inefficiencies in such conversion (Findings 75, 162); and (5) Medium and liner are constituent parts of corrugated sheets and boxes, with medium having no substantial separate usage. (Findings 22–23).

The geographic market definition is similarly complex. Only a few percentage points of the medium produced in the 11 west coast states

[29] Both complaint counsel and respondents' counsel are to be commended for the excellence of their evidentiary presentations, proposed findings and briefs. Both parties were quite economical in the marshalling of evidence during the hearing, and avoided "overtrying" their respective positions.

are shipped out of that area (CX 953A) and, as of 1982, only about 10% of the medium consumed in those 11 western states was produced outside of that area. (Finding 137). However, these facts were complicated by, among other things, evidence that: (1) Nine producers of liner and medium, other than the west coast medium producers, have a very substantial stake in the west coast medium market, since they must protect their interests in maintaining the production of their box shops and liner mills (Findings 128–129, 142, 145–154); (2) Eastern medium producers have, throughout the period covered by the evidence, found it profitable to ship medium to the west coast, both to supply their own box shops and for sales on the open market (Finding 135); (3) The lock-step pricing, over the years, of west coast medium and eastern medium reveals a strong competitive relationship between the two (Findings 121–123, 170–177); (4) Exchange agreements, which account for a substantial portion of medium sales, act as a surrogate for shipments west by eastern producers having western box shops (Findings 142–146, 174–175); and (5) Western producers of liner, but not medium, who have box shops on the west coast can readily exchange liner for medium from eastern suppliers to keep their box shops adequately supplied. (Findings 90–91, 152–154, 148–150).

The Product Market

I have found the relevant product market to be corrugating medium only. (Finding 167). Although liner is a "complementary" product, is easily tradeable for medium, and is essential to the use of medium (since it takes both to make a corrugated sheet or box), it is not a part of the relevant market in this matter. It is not a reasonable substitute for medium in the manufacture of corrugated sheet and boxes (Finding 156) and the production facilities are reasonably interchangeable only to a very limited degree. (Findings 159–165). Thus, there is no potential demand-side substitute for medium and the supply-side cross-elasticity is very low. Under the Commission's *Statement Concerning Horizontal Mergers* (hereafter *Statement*) this indicates that corrugating [87] medium is a separate product market from linerboard. [Trade Reg. Rep. (CCH) No. 546, 70, 84 (June 16, 1982)]. Additionally, the relevant product market for corrugating medium is distinguished by several of the *Brown Shoe* criteria as well.[30] First, there is widespread industry recognition that medium constitutes a separate and distinct market as shown by the market analyses of Weyerhaeuser, Menasha, and International Paper, and by the trade association data collected and published by the American Paper Institute and the *Official Board Markets* publications. (Finding 166). Sec-

[30] *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

ondly, medium clearly has peculiar characteristics and uses. Other paper products lack the characteristics of medium and, therefore, cannot be economically or practicably substituted for medium as the fluted inner layer in corrugated board. (Findings 33, 156). Third, medium is made by a distinct production process using unique production facilities. Medium is not made from the pulp used to produce kraft linerboard or other paper products, and supply-side flexibility between medium and liner is very limited. (Findings 72–74, 159–165). Lastly, medium sells at a different and distinct price from other paper products. (Finding 171; CX 709).

The Geographic Market

As noted in *Brown Shoe v. United States,* 370 U.S. at 336–37, the geographic market selection must "both 'correspond to the commercial realities' of the industry and be economically significant." The commercial realities in this case are somewhat blurred, due to the peculiar characteristics of this industry. Thus, complaint counsel, looking at shipping patterns, the existence of a price difference on the west coast, shipping costs and alleged industry recognition, have concluded that the relevant geographic market consists of the 11 states of the west coast region. (CF 3–18 through 3–44; CB at 181–191). However, in doing so complaint counsel have failed to recognize certain "commercial realities." The shipping patterns of the medium industry are largely the result of the trade arrangements under which this industry operates, rather than of economic necessity. (Findings 141–151). The price differential reveals a close competitive relationship between western medium and that produced in the rest of the nation, rather than indicating a separate market. (Findings 121–123, 171–182). Shipping costs [88] have not discouraged shipments from east to west, nor made such shipments unprofitable in the past. (Findings 133–140). And the alleged industry recognition is quite illusive. For example, *OBM* divides the country up into five separate areas, New England, Middle Atlantic, South and South Central, North Central and West Coast, but there is no price difference among the other four regions and even complaint counsel have not contended that they are separate market areas. (*See, e.g.,* CX 625A). As for the internal documents of Weyerhaeuser, upon which complaint counsel also rely in part to show the west coast as a separate market area, some of these documents include eastern medium producers in the "West Coast" industry. (*See, e.g.,* CX 1A; CX 26Z).

In the Commission's *Statement,* the issue of geographic market is defined as "whether producers of the merged firm's product in other geographic areas place a significant restraint on the ability of the merged firm to raise price or restrict output." [Trade Reg. Rep. (CCH)

No. 546, at 84–85 (June 16, 1982)]. The Justice Department *Merger Guidelines* (hereafter *Guidelines*) similarly state, "The goal of market definition is to identify and consider all the firms that would have to cooperate in order to raise prices above the competitive level and keep them there." [Trade Reg. Rep. (CCH) No. 546, at 61 (June 16, 1982)].

In keeping with these principles, I have reviewed the evidence of record to determine what effect, if any, firms outside the 11 western states exert on the production and sale of medium within that area. When viewed in this light, it is quite clear that eastern firms, especially those with box shops in the west, have a definite competitive effect on west coast medium.

Simply looking at the pricing history of this industry is almost enough to convince one that the eastern and western medium prices are competitively inter-related. The price differential between eastern and western medium was only $4.25 for most of the time period covered by the evidence (with liner selling at the same price, east and west). Even when it rose to $34.25, it still did not cover the equilibrium transportation cost for most eastern companies. (Findings 121–123). Such a narrow price differential, not even covering transportation costs, cannot be explained by complaint counsel's contention that the west coast producers look to eastern prices and liner prices as "reference points." (Finding 171). The only reasonable explanation for the narrowness of that differential [89] is that eastern prices do exert a competitive influence on western prices. (Findings 172–182).[31]

This explanation becomes even more apparent when the mechanisms by which this industry operates are reviewed. The two principal factors to be considered are: exchange agreements and box shop operations [the root source of profits for the integrated containerboard company (Finding 186)].

Exchange agreements are a very important factor in the production, transportation and sale of medium. In addition to providing reduced freight rates in some instances, they allow medium mills to maximize "trim" efficiencies (permit grouping of orders together to lower trim loss and maximize production of trim widths that result in low trim loss), foster mill optimization by allowing longer production runs of one grade or basis weight, and enhance the efficiencies of the box shop operations. (Findings 92–98). The vast majority of medium consumed on the west coast is either used internally in the

[31] The relationship between medium and liner prices on the west coast can be similarly explained by the interrelationship of containerboard production and pricing on a nationwide basis. The evidence shows the same basic relationship between western and eastern liner, with western and eastern liner priced identically throughout most of the evidential period, and increasing by $30.00 in the west at the same time the medium differential increased by $30.00. (CX 709A-Z2). Again, the stability of the east-west price differential, over time, shows a definite competitive relationship between east and west producers.

box shops of the producers, or purchased through exchange agreements. (Findings 88, 131). Thus, the eastern medium producers with western box shops, in normal market circumstances, rely on such exchange agreements for most of the supply of medium to their western box shops. (Findings 142–143). However, this is by no means the only available source of supply for such box shops. These eastern producers have generally always supplied some of their own needs at the western box shops and in times of curtailed western production due to strikes have supplied up to 100% of their needs from their eastern mills. (Findings 135, 142–143). **[90]**

The box shops are a very important element of the integrated containerboard companies and the record shows a determination on the part of such companies to keep their box shops adequately supplied with medium and liner. (Findings 142–143, 145–148). This is due in great part to the fact that the profit for such integrated companies is primarily made at the box shop end of their operations. (Findings 104, 186).[32] Therefore, it is highly unlikely that the eastern mills with western box shops would allow any collusive curtailment of their medium supply. (Findings 142–148). Further, it must be remembered that any abrogation of the trade agreements by western medium producers would result in similar treatment for many of those producers at their box shops in the eastern portion of the country. (Finding 145). Moreover, the western companies could not curtail the medium supply at only their own box shops and those of the independents, without forfeiting market share at the box shop level (the profit level) to the box shops of the eastern mills. (Finding 174).

Nor could west coast colluders even expect to limit medium supply to the independent box shops. Eastern mills, including a number not having box shops on the west coast, have been and are supplying medium to the open market on the west coast. (Finding 133). The evidence shows, further, that they are willing and able to supply additional medium there, in the event a demand exists. In fact, they have been soliciting additional sales in that area in recent years. (Findings 177, 181). The record also shows that sufficient excess capacity exists in the east to supply any increased demand in the west. (Finding 150). Furthermore, the evidence indicates that past sales on the west coast by eastern suppliers, at competitive prices, have been profitable ones. (Findings 136, 148, 215).

As stated in *Jim Walter Corp. v. F.T.C.*, 625 F.2d 676, 682 (5th Cir. 1980) ". . . the most compelling evidence that an area is competitively unified is statistical evidence of pricing interdependence. . . ." Com-

[32] The record also indicates that west coast box shops may be much more profitable than those in the rest of the nation, due to the high percentage of "produce" box business there. (CX 26C). This, of course, adds extra

mentators such as Professor Elzinga, and Areeda and Turner agree that correlation of price movements [91] in different areas is a strong indication of a single market. Elzinga, *Defining Geographic Market Boundaries,* 26 Antitrust Bull., at 746 (1981); Areeda & Turner, *Antitrust Law* ¶ 522 at 355 (1978). This is particularly borne out by the language of Areeda and Turner, who state

> When prices and price movements in two territories are closely correlated, a single market definition is strongly indicated . . . Indeed, price identity is not a necessary element; high correlation of the direction and amount of price changes would ordinarily be enough. (¶ 522 at 355).

In this regard it must be remembered that even when the E-W Differential was widened to $34.25, the eastern producers were attempting to raise their prices by the same amount and that eventually they did succeed in raising their prices somewhat, thus drastically reducing the differential back toward the traditional level. (Findings 123 n. 11, 179).[33]

In any event, the prices and price movements of medium (and liner) have shown a very close correlation, historically, between the west coast and the rest of the nation (Findings 121–123), so much so, that even complaint counsel have referred to west coast medium prices as moving in "lock-step fashion" with western liner and eastern medium prices. (CRB 1–4). Such "lock-step" price movements cannot be explained by the contention that west coast producers use eastern prices and liner prices as "reference points," since then the western medium prices would surely be set higher. (Finding 171). Nor is there any other logical explanation available from the evidence concerning such pricing pattern, other than the one showing a competitive interrelationship with the eastern mills already shipping to the western market; particularly those with box shops located there. [92]

Characteristics Of A "Western Market"

If I were to conclude, despite the above evidence, that the 11 west coast states did constitute the relevant market, I would still have to dismiss this complaint. The evidence reveals not only that such a market would not be as concentrated as is claimed by complaint counsel, but also, that: (1) entry barriers are very low, especially for eastern mills and through the expansion of production by western mills (including, particularly, western swing mills); (2) there has been no appreciable trend toward concentration in that "market" up to the

[33] In fact, the $10–14 E-W Differential which came into effect in the spring of 1983 (Finding 123 n. 11) is not too unlike the differentials between Menasha's eastern and western prices, on a transaction price basis, even before the E-W Differential widened in 1980. (*See* CX 719). It must be remembered that transaction prices are not always identical to *OBM* prices and that, for some companies at some times, the actual transaction prices might reflect a different price differential between east and west. (Finding 120 n. 9).

time of this acquisition; and (3) the "market" has shown a great deal of volatility in market shares in the recent past. (Findings 195–225, 226).

West Coast Market Shares

Even complaint counsel would include some sales by eastern companies in their computation of market shares. In doing so, whether on the basis of "consumption" or capacity, they have included eastern mills only to the extent those mills have shipped medium into the market in recent years. (CF at pp. 67, 69; CX 702 part IC; CX 703, part IC). This certainly understates their presence in the market. Those eastern mills with western box shops have already shown the determination to supply up to 100% of the needs of their box shops if the need arises (Findings 135, 142–143), and the eastern companies, in general, have shown a willingness to supply additional medium to the open market in the west. (Findings 133, 177, 181). Although the importance of sales to the open market by eastern mills and paper brokers is difficult to measure, other than in terms of past sales, it is simple enough to measure more accurately the real presence of those eastern mills having western box shops. Since they have demonstrated their ability and determination to supply their own medium needs if necessary, they should be included in the market at least to the level of capacity needed to meet such needs. Such inclusion is consistent with the Justice Department *Guidelines* which would "include . . . those sales likely to be made or capacity likely to be used in the geographic market. . . ." (*Guidelines,* at 25).

Furthermore, the use of "consumption" figures by complaint counsel (CX 702, part IC) also distorts the concentration figures for a west coast "market." Not only does such use ignore substantial idle capacity on the west coast with which **[93]** potential colluders would have to contend in the event of a conspiracy to curtail production, but it also ignores the true impact of eastern producers and the liner market upon west coast medium sales.

Capacity is the preferable measure of market share in this case, since it more accurately reveals the problems any potential colluders would have in curtailing west coast medium sales. The dissymmetries of interests of the participants in this "market" are better reflected by capacity (Findings 124–129, 152–154) and such differences would have to be considered and controlled by colluders, if any conspiracy were to be successful. The failure to control all of the capacity available to the "market" would only result in forfeiture by the colluders of market share at the very important box shop end of the market, since the eastern producers, and those western companies concerned principally with liner, could supply all the needs of their own box

shops and, consequently, take up any slack in the market at considerable expense to the colluders. (Finding 186).[34]

Thus, I have calculated market shares on the basis of capacity and have included the capacity of eastern medium producers with western box shops to the extent necessary for the supply of those box shops in the event of a collusive curtailment of supply on the west coast.[35] This is a very conservative approach since it fails to completely account for the ability of these eastern producers, and others, to supply even greater quantities of medium to the west coast box shops. (Findings 189–192). However, it is sufficient for the purposes [**94**] of this case, since it reduces the concentration level below the critical level of the *Guidelines.* In this regard it should be noted, however, that legal precedent requires that the market should include all sellers "to which the purchaser can practicably turn for supplies." *U.S.* v. *Philadelphia National Bank,* 374 U.S. 321, 359 (1963); *Tampa Electric Company* v. *Nashville Coal Co.,* 365 U.S. 320, 327–28 (1961); *In Re Uranium Antitrust Litigation,* 556 F.Supp. 806, 807 (N.D. Ill. 1983). To the extent my calculations do not do so, they overstate concentration within a west coast medium "market."

When I have recalculated market shares in keeping with the above factors, the post acquisition concentration in the west coast "market" falls below the critical level of the Justice Department *Guidelines.* The resulting post-acquisition HHI is only 952.02, showing an increase in pre-acquisition HHI of about 150 points. (Finding 191, Tables 1 and 2). For acquisitions in this range the *Guidelines* provide that:

> Markets in this region generally would be considered to be unconcentrated. . . . Because implicit coordination among firms is likely to be difficult and because the prohibitions of Section 1 of the Sherman Act are usually an adequate response to any explicit collusion that might occur, the Department is unlikely to challenge mergers falling in this region. (*Guidelines,* at 29).

Accordingly, the concentration figures in this case would not support the finding of a violation even if it were determined that a west coast market existed. This becomes even more apparent when the question of entry barriers is considered below.

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[34] I refer to liner producers in this regard because their liner is readily exchangeable for medium. Moreover, two of the western companies who are proportionally more involved in liner production than in medium production have substantial "swing" capacity which can be converted to medium production. (Findings 82, 222).

[35] I have used 1982 capacity figures in my calculations since the consumption data for the west coast box shops of the eastern producers is only available for that year. Further, substantial capacity has been added to the North Bend mill by Weyerhaeuser, since the acquisition, which would be missed in the data for prior years.

Entry Barriers

The Commission, in its *Statement* has said that "perhaps the most important qualitative factor" in determining the impact of a merger is "the issue of entry barriers." *Statement,* at 76–77. The evidence in this case reveals that entry barriers are low, at least for eastern producers and for non-colluding western producers who might wish to expand their production (especially those with "swing" mills). In this regard, all potential sources of additional supply to west coast medium consumers must be considered, not just *de novo* construction on the west coast. The Commission has indicated in its *Statement* that "[e]vidence of substantial expansion by firms already in an **[95]** industry" is relevant to the question of entry barriers. *Statement,* at 77.

Moreover, even the evidence concerning the possibility of *de novo* construction does not indicate the existence of high barriers to entry. "The mere fact that entry requires a large absolute expenditure of funds does not constitute a 'barrier to entry'. . . ." Areeda & Turner, *Antitrust Law,* ¶ 409(e) at 303. When the necessary expenditures for *de novo* construction in this industry are viewed in light of the size of the companies involved, their propensity for capital expenditures in the past, the availability of financing, and the fact that there are actual plans for expansion extant in the industry, it is clear that there are no real barriers to *de novo* construction in this industry on the basis of capital costs. (Findings 196–200).

Nor does there appear to be a lack of potential mill sites as claimed by complaint counsel. Although there may be a shortage of mill sites on the west coast for semichemical mills, there is no reliable evidence showing the lack of mill sites for recycled mills on the west coast. (Findings 206–208). Furthermore, the evidence indicates that there is no shortage of mill sites for semichemical mills in the southeast and midwest (Finding 206), which the record also shows are low cost areas as compared to the Pacific Northwest. (Finding 215).

Additionally, the high capital cost of a new mill would not impede its ability to compete for the west coast medium business, as asserted by complaint counsel. (Findings 209–211). The evidence shows that, at startup, a new mill on a total cost basis would have a lower cost than the average mill in the industry and would most likely have a lower cost than the west coast mills. (Finding 209). Moroever, the record shows that variable cost is the most appropriate criterion for measuring the cost effectiveness of a new mill in this industry. (Findings 210–211).

Most importantly, complaint counsel's discussion of barriers to entry does not consider the possibility of expansion by firms already in the industry. A substantial number of eastern mills (21) already

have a presence in the market, especially those having box shops in the west. (Findings 133, 142–150). A number of these have shown a desire to expand their presence on the west coast, by their solicitation of additional sales in recent years. (Finding 181). The fact that they have been able to sell profitably on the west coast at competitive prices and on competitive service terms in the past, even with the very low [96] E-W Differential, is proof that transportation costs are not a barrier to such entry. (Findings 135–136, 148, 181). This circumstance is undoubtedly explained by the lower costs enjoyed by some of the eastern producers. (Finding 215). As noted in *RSR Corp.*, 88 F.T.C. 800, 882 (1976), "[a] larger, more efficient plant can ship its output further . . . because lower unit production costs permit absorption of larger freight costs."

Expansion of the presence of other western mills is also a very likely form of entry in this instance. The record shows a history of expansion, as well as the opportunity for further substantial expansions, by most medium mills, east and west. (Findings 150, 218–219). It is highly unlikely that all west coast medium producers would join in any collusion to curtail production on the west coast. (Findings 217, 219). A number of the smaller firms have shown aggressiveness in pricing in the recent past and might be expected to compete for any demand created by a collusion to curtail production in this area. (Finding 219).

The potential for expansion by western mills is further enhanced by the existence of "swing mills" there. If medium prices were to rise relative to liner prices on the west coast, it is likely that some substantial portion, at least, of this "swing" capacity would be utilized for the production of medium. (Findings 220–225).

Furthermore, considering the possibility of expansion by some western mills, or increased penetration by eastern mills, it is important to note that these firms would not have to supply the entire market in order to defeat any west coast collusion. Due to the small size of the open market and that portion of the market represented by the box shops of the eastern producers, they would only have to supply enough additional medium to the market to allow such box shops to operate at full potential so as to fulfill whatever demand was created by the collusive curtailment. (Findings 131, 186). The collusion would then necessarily fail, because the colluders could not afford to sacrifice market share at this important end of the market. (Finding 186).

In the absence of significant entry barriers, it is "unlikely that market power, whether individually or collectively exercised, will persist for long." *Statement,* at 77. The Justice Department *Guidelines,* for instance, specifically provide that ease of entry alone may

be a sufficient reason not to challenge a merger. *Guidelines,* at [97] 31. Even if this market were "moderately concentrated," as contended by complaint counsel, the absence of entry barriers, when considered along with the other competitive facts discussed above, would therefore preclude a finding that this acquisition tends to injure competition.

Market Share Volatility And Concentration Trends

Two other factors which the Commission's *Statement* indicates are measures of market power resulting from an acquisition, are the volatility of market shares and concentration trends. *Statement,* at 76. In this instance, each of these criteria favors the acquisition. The market shares of the western medium producers in a "west coast market" have been very volatile in recent years (Finding 226) and the record reveals no substantial trend toward concentration, prior to this acquisition, over the period covered by the evidence. (Finding 226).

Determination

In view of all of the above, I must find that the weight of the evidence of record fails to establish that Weyerhaeuser's acquisition of the North Bend medium mill from Menasha may lessen competition or tend to create a monopoly, in any line of commerce in any section of the country.

XII. CONCLUSIONS OF LAW

1. The Federal Trade Commission has jurisdiction over the respondents Weyerhaeuser Company and Weyerhaeuser West Coast, Inc. (Weyerhaeuser) and the subject matter of this proceeding.

2. At all times material herein, Weyerhaeuser was engaged in the production and sale of corrugating medium in interstate commerce, its assets were used in interstate commerce, and it was engaged in commerce as "commerce" is defined in the Clayton Act, as amended, and its business was in and affected commerce as "commerce" is defined in the Federal Trade Commission Act, as amended.

3. Complaint counsel have failed to sustain the burden of establishing by the weight of the evidence that the acquisition of the North Bend mill by Weyerhaeuser is a violation of Section 7 of the Clayton Act, or Section 5 of the Federal Trade Commission Act, as alleged in the Complaint. [98]

ORDER

It is ordered, That the complaint in this proceeding be, and it hereby is, dismissed.

APPENDIX I

(CX 709-A—Z-2)

OFFICIAL BOARD MARKETS
"The Yellow Sheet"

Announced Delivered Prices
for #26 Semichemical Corrugating Medium
and #42 Kraft Linerboard
1973-1981

1973 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/06/73	$126.00	$130.25	$134.00	$134.00
1/13/73	126.00	130.25	134.00	134.00
1/20/73	126.00	130.25	134.00	134.00
1/27/73	126.00	130.25	134.00	134.00
2/03/73	126.00	130.25	134.00	134.00
2/10/73	126.00	130.25	134.00	134.00
2/17/73	126.00	130.25	134.00	134.00
2/24/73	126.00	130.25	134.00	134.00
3/03/73	126.00	130.25	134.00	134.00
3/10/73	126.00	130.25	134.00	134.00
3/17/73	126.00	130.25	134.00	134.00
3/24/73	126.00	130.25	134.00	134.00
3/31/73	130.00	134.25	137.50	137.50
4/07/73	130.00	134.25	137.50	137.50
4/14/73	130.00	134.25	137.50	137.50
4/21/73	130.00	134.50	137.50	137.50
4/28/73	130.00	134.50	137.50	137.50
5/05/73	140.00	144.25	145.00	145.00
5/12/73	140.00	144.25	145.00	145.00
5/19/73	140.00	144.25	145.00	145.00
5/26/73	140.00	144.25	145.00	145.00
6/02/73	140.00	144.25	145.00	145.00
6/09/73	140.00	144.25	145.00	145.00
6/16/73	140.00	144.25	145.00	145.00
6/23/73	140.00	144.25	145.00	145.00
6/30/73	140.00	144.25	145.00	145.00
7/07/73	140.00	144.25	145.00	145.00
7/14/73	140.00	144.25	145.00	145.00
7/21/73	140.00	144.25	145.00	145.00
7/28/73	140.00	144.25	145.00	145.00
8/04/73	140.00	144.25	145.00	145.00
8/11/73	140.00	144.25	145.00	145.00
8/18/73	140.00	144.25	145.00	145.00
8/25/73	140.00	144.25	145.00	145.00
9/01/73	140.00	144.25	145.00	145.00

	Corrugating Medium		Linerboard	
Week	East	West	East	West
9/08/73	140.00	144.25	145.00	145.00
9/15/73	140.00	144.25	145.00	145.00
9/22/73	140.00	144.25	145.00	145.00
9/29/73	140.00	144.25	145.00	145.00
10/06/73	140.00	144.25	145.00	145.00
10/13/73	140.00	144.25	145.00	145.00
10/20/73	140.00	144.25	145.00	145.00
10/27/73	140.00	144.25	145.00	145.00
11/03/73	140.00	144.25	145.00	145.00
11/10/73	140.00	144.25	145.00	145.00
11/17/73	140.00	144.25	145.00	145.00
11/24/73	140.00	144.25	145.00	145.00
12/01/73	140.00	144.25	145.00	145.00
12/08/73	140.00	144.25	145.00	145.00
12/15/73	140.00	144.25	145.00	145.00
12/22/73	140.00	144.25	145.00	145.00
12/29/73	140.00	144.25	145.00	145.00

1974 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/05/74	$140.00	$144.25	$145.00	$145.00
1/12/74	140.00	144.25	145.00	145.00
1/19/74	140.00	144.25	145.00	145.00
1/26/74	140.00	144.25	145.00	145.00
2/02/74	140.00	144.25	145.00	145.00
2/09/74	140.00	144.25	145.00	145.00
2/16/74	140.00	144.25	145.00	145.00
2/23/74	140.00	144.25	145.00	145.00
3/02/74	140.00	144.25	145.00	145.00
3/09/74	140.00	144.25	145.00	145.00
3/16/74	160.00	164.25	165.00	165.00
3/23/74	160.00	164.25	165.00	165.00
3/30/74	160.00	164.25	165.00	165.00
4/06/74	160.00	164.25	165.00	165.00
4/13/74	160.00	164.25	165.00	165.00
4/20/74	160.00	164.25	165.00	165.00
4/27/74	160.00	164.25	165.00	165.00
5/04/74	160.00	164.25	165.00	165.00
5/11/74	160.00	164.25	165.00	165.00
5/18/74	160.00	164.25	165.00	165.00
5/25/74	160.00	164.25	165.00	165.00
6/01/74	160.00	164.25	165.00	165.00
6/08/74	160.00	164.25	165.00	165.00
6/15/74	160.00	164.25	165.00	165.00
6/22/74	160.00	164.25	165.00	165.00
6/29/74	190.00	194.25	195.00	195.00

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
7/06/74	190.00	194.25	195.00	195.00
7/13/74	190.00	194.25	195.00	195.00
7/20/74	190.00	194.25	195.00	195.00
7/27/74	190.00	194.25	195.00	195.00
8/03/74	190.00	194.25	195.00	195.00
8/10/74	190.00	194.25	195.00	195.00
8/17/74	190.00	194.25	195.00	195.00
8/24/74	190.00	194.25	195.00	195.00
8/31/74	190.00	194.25	195.00	195.00
9/07/74	190.00	194.25	195.00	195.00
9/14/74	190.00	194.25	195.00	195.00
9/21/74	190.00	194.25	195.00	195.00
9/28/74	190.00	194.25	195.00	195.00
10/05/74	190.00	194.25	195.00	195.00
10/12/74	190.00	194.25	195.00	195.00
10/19/74	190.00	194.25	195.00	195.00
10/26/74	190.00	194.25	195.00	195.00
11/02/74	190.00	194.25	195.00	195.00
11/09/74	190.00	194.25	195.00	195.00
11/16/74	190.00	194.25	195.00	195.00
11/23/74	190.00	194.25	195.00	195.00
11/30/74	190.00	194.25	195.00	195.00
12/07/74	190.00	194.25	195.00	195.00
12/14/74	190.00	194.25	195.00	195.00
12/21/74	190.00	194.25	195.00	195.00
12/28/74	190.00	194.25	195.00	195.00

1975 Prices

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
1/04/75	$190.00	$194.25	$195.00	$195.00
1/11/75	190.00	194.25	195.00	195.00
1/18/75	190.00	194.25	195.00	195.00
1/25/75	190.00	194.25	195.00	195.00
2/01/75	190.00	194.25	195.00	195.00
2/08/75	190.00	194.25	195.00	195.00
2/15/75	190.00	194.25	195.00	195.00
2/22/75	190.00	194.25	195.00	195.00
3/01/75	190.00	194.25	195.00	195.00
3/08/75	190.00	194.25	195.00	195.00
3/15/75	190.00	194.25	195.00	195.00
3/22/75	190.00	194.25	195.00	195.00
3/29/75	190.00	194.25	195.00	195.00
4/05/75	190.00	194.25	195.00	195.00
4/12/75	190.00	194.25	195.00	195.00
4/19/75	190.00	194.25	195.00	195.00
4/26/75	190.00	194.25	195.00	195.00
5/03/75	190.00	194.25	195.00	195.00
5/10/75	190.00	194.25	195.00	195.00
5/17/75	190.00	194.25	195.00	195.00

	Corrugating Medium		Linerboard	
Week	East	West	East	West
5/24/75	190.00	194.25	195.00	195.00
5/31/75	190.00	194.25	195.00	195.00
6/07/75	190.00	194.25	195.00	195.00
6/14/75	190.00	194.25	195.00	195.00
6/21/75	190.00	194.25	195.00	195.00
6/28/75	190.00	194.25	195.00	195.00
7/05/75	190.00	194.25	195.00	195.00
7/12/75	190.00	194.25	195.00	195.00
7/19/75	190.00	194.25	195.00	195.00
7/26/75	190.00	194.25	195.00	195.00
8/02/75	190.00	194.25	195.00	195.00
8/09/75	190.00	194.25	195.00	195.00
8/16/75	190.00	194.25	195.00	195.00
8/23/75	190.00	194.25	195.00	195.00
8/30/75	190.00	194.25	195.00	195.00
9/06/75	190.00	194.25	195.00	195.00
9/13/75	190.00	194.25	195.00	195.00
9/20/75	190.00	194.25	195.00	195.00
9/27/75	190.00	194.25	195.00	195.00
10/04/75	190.00	194.25	195.00	195.00
10/11/75	190.00	194.25	195.00	195.00
10/18/75	190.00	194.25	195.00	195.00
10/25/75	190.00	194.25	195.00	195.00
11/01/75	200.00	204.25	205.00	205.00
11/08/75	200.00	204.25	205.00	205.00
11/15/75	200.00	204.25	205.00	205.00
11/22/75	200.00	204.25	205.00	205.00
11/29/75	200.00	204.25	205.00	205.00
12/06/75	200.00	204.25	205.00	205.00
12/13/75	200.00	204.25	205.00	205.00
12/20/75	200.00	204.25	205.00	205.00
12/27/75	200.00	204.25	205.00	205.00

1976 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/03/76	$200.00	$204.25	$205.00	$205.00
1/10/76	200.00	204.25	205.00	205.00
1/17/76	200.00	204.25	205.00	205.00
1/24/76	200.00	204.25	205.00	205.00
1/31/76	200.00	204.25	205.00	205.00
2/07/76	210.00	214.25	215.00	215.00
2/14/76	210.00	214.25	215.00	215.00
2/21/76	210.00	214.25	215.00	215.00
2/28/76	210.00	214.25	215.00	215.00
3/06/76	210.00	214.25	215.00	215.00
3/13/76	200.00	204.25	205.00	205.00

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
3/20/76	200.00	204.25	205.00	205.00
3/27/76	200.00	204.25	205.00	205.00
4/03/76	200.00	204.25	205.00	205.00
4/10/76	200.00	204.25	205.00	205.00
4/17/76	200.00	204.25	205.00	205.00
4/24/76	200.00	204.25	205.00	205.00
5/01/76	210.00	214.25	215.00	215.00
5/08/76	210.00	214.25	215.00	215.00
5/15/76	210.00	214.25	215.00	215.00
5/22/76	210.00	214.25	215.00	215.00
5/29/76	210.00	214.25	215.00	215.00
6/05/76	210.00	214.25	215.00	215.00
6/12/76	210.00	214.25	215.00	215.00
6/19/76	210.00	214.25	215.00	215.00
6/26/76	210.00	214.25	215.00	215.00
7/03/76	210.00	214.25	215.00	215.00
7/10/76	210.00	214.25	215.00	215.00
7/17/76	210.00	214.25	215.00	215.00
7/24/76	210.00	214.25	215.00	215.00
7/31/76	210.00	214.25	215.00	215.00
8/07/76	210.00	214.25	215.00	215.00
8/14/76	210.00	214.25	215.00	215.00
8/21/76	210.00	214.25	215.00	215.00
8/28/76	210.00	214.25	215.00	215.00
9/04/76	210.00	214.25	215.00	215.00
9/11/76	210.00	214.25	215.00	215.00
9/18/76	210.00	214.25	215.00	215.00
9/25/76	210.00	214.25	215.00	215.00
10/02/76	210.00	214.25	215.00	215.00
10/09/76	210.00	214.25	215.00	215.00
10/16/76	200.00	204.25	205.00	205.00
10/23/76	200.00	204.25	205.00	205.00
10/30/76	200.00	204.25	205.00	205.00
11/06/76	200.00	204.25	205.00	205.00
11/13/76	200.00	204.25	205.00	205.00
11/20/76	200.00	204.25	205.00	205.00
11/27/76	200.00	204.25	205.00	205.00
12/04/76	200.00	204.25	205.00	205.00
12/11/76	200.00	204.25	205.00	205.00
12/18/76	200.00	204.25	205.00	205.00
12/25/76	200.00	204.25	205.00	205.00

1977 Prices

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
1/01/77	$200.00	$204.25	$205.00	$205.00
1/08/77	200.00	204.25	205.00	205.00
1/15/77	200.00	204.25	205.00	205.00
1/22/77	200.00	204.25	205.00	205.00
1/29/77	200.00	204.25	205.00	205.00

Week	Corrugating Medium		Linerboard	
	East	West	East	West
2/05/77	190.00	194.25	195.00	195.00
2/12/77	190.00	194.25	195.00	195.00
2/19/77	190.00	194.25	195.00	195.00
2/26/77	190.00	194.25	195.00	195.00
3/05/77	190.00	194.25	195.00	195.00
3/12/77	190.00	194.25	195.00	195.00
3/19/77	190.00	194.25	195.00	195.00
3/26/77	190.00	194.25	195.00	195.00
4/02/77	210.00	214.25	215.00	215.00
4/09/77	210.00	214.25	215.00	215.00
4/16/77	210.00	214.25	215.00	215.00
4/23/77	210.00	214.25	215.00	215.00
4/30/77	210.00	214.25	215.00	215.00
5/07/77	210.00	214.25	215.00	215.00
5/14/77	210.00	214.25	215.00	215.00
5/21/77	210.00	214.25	215.00	215.00
5/28/77	210.00	214.25	215.00	215.00
6/04/77	210.00	214.25	215.00	215.00
6/11/77	210.00	214.25	215.00	215.00
6/18/77	210.00	214.25	215.00	215.00
6/25/77	210.00	214.25	215.00	215.00
7/02/77	210.00	214.25	215.00	215.00
7/09/77	210.00	214.25	215.00	215.00
7/16/77	210.00	214.25	215.00	215.00
7/23/77	210.00	214.25	215.00	215.00
7/30/77	210.00	214.25	215.00	215.00
8/06/77	210.00	214.25	215.00	215.00
8/14/77	210.00	214.25	215.00	215.00
8/20/77	210.00	214.25	215.00	215.00
8/27/77	210.00	214.25	215.00	215.00
9/03/77	210.00	214.25	215.00	215.00
9/10/77	210.00	214.25	215.00	215.00
9/17/77	210.00	214.25	215.00	215.00
9/24/77	210.00	214.25	215.00	215.00
10/01/77	210.00	214.25	215.00	215.00
10/08/77	210.00	214.25	215.00	215.00
10/15/77	210.00	214.25	215.00	215.00
10/22/77	190.00	194.25	195.00	195.00
10/29/77	190.00	194.25	195.00	195.00
11/05/77	190.00	194.25	195.00	195.00
11/12/77	190.00	194.25	195.00	195.00
11/19/77	190.00	194.25	195.00	195.00
11/26/77	190.00	194.25	195.00	195.00
12/03/77	190.00	194.25	195.00	195.00
12/10/77	190.00	194.25	195.00	195.00
12/17/77	190.00	194.25	195.00	195.00
12/24/77	190.00	194.25	195.00	195.00
12/31/77	190.00	194.25	195.00	195.00

1978 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/07/78	$190.00	$194.25	$195.00	$195.00
1/14/78	190.00	194.25	195.00	195.00
1/21/78	190.00	194.25	195.00	195.00
1/28/78	190.00	194.25	195.00	195.00
2/04/78	190.00	194.25	195.00	195.00
2/11/78	190.00	194.25	195.00	195.00
2/18/78	190.00	194.25	195.00	195.00
2/25/78	190.00	194.25	195.00	195.00
3/04/78	190.00	194.25	195.00	195.00
3/11/78	190.00	194.25	195.00	195.00
3/18/78	190.00	194.25	195.00	195.00
3/25/78	190.00	194.25	195.00	195.00
4/01/78	190.00	194.25	195.00	195.00
4/08/78	200.00	204.25	205.00	205.00
4/15/78	200.00	204.25	205.00	205.00
4/22/78	200.00	204.25	205.00	205.00
4/29/78	200.00	204.25	205.00	205.00
5/06/78	200.00	204.25	205.00	205.00
5/13/78	200.00	204.25	205.00	205.00
5/20/78	200.00	204.25	205.00	205.00
5/27/78	200.00	204.25	205.00	205.00
6/03/78	200.00	204.25	205.00	205.00
6/10/78	200.00	204.25	205.00	205.00
6/17/78	200.00	204.25	205.00	205.00
6/24/78	200.00	204.25	205.00	205.00
7/01/78	200.00	204.25	205.00	205.00
7/08/78	200.00	204.25	205.00	205.00
7/15/78	200.00	204.25	205.00	205.00
7/22/78	200.00	204.25	205.00	205.00
7/29/78	200.00	204.25	205.00	205.00
8/05/78	200.00	204.25	205.00	205.00
8/12/78	200.00	204.25	205.00	205.00
8/19/78	200.00	204.25	205.00	205.00
8/26/78	200.00	204.25	205.00	205.00
9/02/78	200.00	204.25	205.00	205.00
9/09/78	210.00	214.25	220.00	220.00
9/16/78	210.00	214.25	220.00	220.00
9/23/78	210.00	214.25	220.00	220.00
9/30/78	210.00	214.25	220.00	220.00
10/07/78	210.00	214.25	220.00	220.00
10/14/78	210.00	214.25	220.00	220.00
10/21/78	210.00	214.25	220.00	220.00
10/28/78	210.00	214.25	220.00	220.00
11/04/78	210.00	214.25	220.00	220.00
11/11/78	210.00	214.25	220.00	220.00
11/18/78	210.00	214.25	220.00	220.00

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
11/25/78	210.00	214.25	220.00	220.00
12/02/78	210.00	214.25	220.00	220.00
12/09/78	210.00	214.25	220.00	220.00
12/16/78	210.00	214.25	220.00	220.00
12/23/78	210.00	214.25	220.00	220.00
12/30/78	210.00	214.25	220.00	220.00

1979 Prices

Week	Corrugating Medium East	Corrugating Medium West	Linerboard East	Linerboard West
1/06/79	$210.00	$214.25	$220.00	$220.00
1/13/79	210.00	214.25	220.00	220.00
1/20/79	210.00	214.25	220.00	220.00
1/27/79	210.00	214.25	220.00	220.00
2/03/79	210.00	214.25	220.00	220.00
2/10/79	210.00	214.25	220.00	220.00
2/17/79	210.00	214.25	220.00	220.00
2/24/79	210.00	214.25	220.00	220.00
3/03/79	225.00	229.25	235.00	235.00
3/10/79	225.00	229.25	235.00	235.00
3/17/79	225.00	229.25	235.00	235.00
3/24/79	225.00	229.25	235.00	235.00
3/31/79	225.00	229.25	235.00	235.00
4/07/79	225.00	229.25	235.00	235.00
4/14/79	225.00	229.25	235.00	235.00
4/21/79	225.00	229.25	235.00	235.00
4/28/79	225.00	229.25	235.00	235.00
5/05/79	225.00	229.25	235.00	235.00
5/12/79	225.00	229.25	235.00	235.00
5/19/79	225.00	229.25	235.00	235.00
5/26/79	225.00	229.25	235.00	235.00
6/02/79	225.00	229.25	235.00	235.00
6/09/79	225.00	229.25	235.00	235.00
6/16/79	225.00	229.25	235.00	235.00
6/23/79	225.00	229.25	235.00	235.00
6/30/79	225.00	229.25	235.00	235.00
7/07/79	225.00	229.25	235.00	235.00
7/14/79	225.00	229.25	235.00	235.00
7/21/79	225.00	229.25	235.00	235.00
7/28/79	225.00	229.25	235.00	235.00
8/04/79	240.00	244.25	250.00	250.00
8/11/79	240.00	244.25	250.00	250.00
8/18/79	240.00	244.25	250.00	250.00
8/25/79	240.00	244.25	250.00	250.00
9/01/79	240.00	244.25	250.00	250.00
9/08/79	240.00	244.25	250.00	250.00
9/15/79	240.00	244.25	250.00	250.00
9/22/79	240.00	244.25	250.00	250.00
9/29/79	240.00	244.25	250.00	250.00

	Corrugating Medium		Linerboard	
Week	East	West	East	West
10/13/79	240.00	244.25	250.00	250.00
10/20/79	240.00	244.25	250.00	250.00
10/27/79	240.00	244.25	250.00	250.00
11/03/79	240.00	244.25	250.00	250.00
11/10/79	240.00	244.25	250.00	250.00
11/17/79	240.00	244.25	250.00	250.00
11/24/79	240.00	244.25	250.00	250.00
12/01/79	240.00	244.25	250.00	250.00
12/08/79	260.00	264.25	270.00	270.00
12/15/79	260.00	264.25	270.00	270.00
12/22/79	260.00	264.25	270.00	270.00
12/29/79	260.00	264.25	270.00	270.00

1980 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/06/80	$260.00	$264.25	$270.00	$270.00
1/12/80	260.00	264.25	270.00	270.00
1/19/80	260.00	264.25	270.00	270.00
1/26/80	260.00	264.25	270.00	270.00
2/02/80	260.00	264.25	270.00	270.00
2/09/80	260.00	264.25	270.00	270.00
2/16/80	260.00	264.25	270.00	270.00
2/23/80	260.00	264.25	270.00	270.00
3/01/80	260.00	264.25	270.00	270.00
3/08/80	260.00	264.25	270.00	270.00
3/15/80	260.00	264.25	270.00	270.00
3/22/80	260.00	264.25	270.00	270.00
3/29/80	260.00	264.25	270.00	270.00
4/05/80	260.00	264.25	270.00	270.00
4/12/80	260.00	294.25	270.00	300.00
4/19/80	260.00	294.25	270.00	300.00
4/26/80	260.00	294.25	270.00	300.00
5/03/80	290.00*	294.25	300.00	300.00
5/10/80	290.00*	294.25	300.00	300.00
5/17/80	290.00*	294.25	300.00	300.00
5/24/80	260.00	294.25	270.00	300.00
5/31/80	260.00	294.25	270.00	300.00
6/07/80	260.00	294.25	270.00	300.00
6/14/80	260.00	294.25	270.00	300.00
6/21/80	260.00	294.25	270.00	300.00
6/28/80	260.00	294.25	270.00	300.00
7/05/80	260.00	294.25	270.00	300.00
7/12/80	260.00	294.25	270.00	300.00
7/19/80	260.00	294.25	270.00	300.00
7/26/80	260.00	294.25	270.00	300.00

* Planned increases to $290.00 deferred. Official Board Markets, May 24, 1980, Vol. 56, No. 21, at 1.

	Corrugating Medium		Linerboard	
Week	East	West	East	West
8/02/80	260.00	294.25	270.00	300.00
8/09/80	260.00	294.25	270.00	300.00
8/16/80	260.00	294.25	270.00	300.00
8/23/80	260.00	294.25	270.00	300.00
8/30/80	260.00	294.25	270.00	300.00
9/06/80	260.00	294.25	270.00	300.00
9/13/80	260.00	294.25	270.00	300.00
9/20/80	260.00	294.25	270.00	300.00
9/27/80	260.00	294.25	270.00	300.00
10/04/80	260.00	294.25	270.00	300.00
10/11/80	260.00	294.25	270.00	300.00
10/18/80	260.00	294.25	270.00	300.00
10/25/80	260.00	294.25	270.00	300.00
11/01/80	260.00	294.25	270.00	300.00
11/08/80	260.00	294.25	270.00	300.00
11/15/80	260.00	294.25	270.00	300.00
11/22/80	260.00	294.25	270.00	300.00
11/29/80	260.00	294.25	270.00	300.00
12/06/80	260.00	294.25	270.00	300.00
12/13/80	260.00	294.25	270.00	300.00
12/20/80	260.00	294.25	270.00	300.00
12/27/80	260.00	294.25	270.00	300.00

1981 Prices

	Corrugating Medium		Linerboard	
Week	East	West	East	West
1/03/81	$260.00	$294.25	$270.00	$300.00
1/10/81	290.00	294.25	300.00	300.00
1/17/81	290.00	294.25	300.00	300.00
1/24/81	290.00	294.25	300.00	300.00
1/31/81	290.00	294.25	300.00	300.00
2/07/81	290.00	294.25	300.00	300.00
2/14/81	290.00	294.25	300.00	300.00
2/21/81	290.00	294.25	300.00	300.00
2/28/81	290.00	294.25	300.00	300.00
3/07/81	290.00	294.25	300.00	300.00
3/14/81	290.00	294.25	300.00	300.00
3/21/81	290.00	294.25	300.00	300.00
3/28/81	290.00	294.25	300.00	300.00
4/04/81	290.00	294.25	300.00	300.00
4/11/81	290.00	294.25	300.00	300.00
4/18/81	290.00	324.25	300.00	330.00
4/25/81	290.00	324.25	300.00	330.00
5/02/81	290.00	324.25	300.00	330.00
5/09/81	290.00	324.25	300.00	330.00
5/16/81	290.00	324.25	300.00	330.00
5/23/81	290.00	324.25	300.00	330.00
5/30/81	290.00	324.25	300.00	330.00

	Corrugating Medium		Linerboard	
Week	East	West	East	West
6/06/81	290.00	324.25	300.00	330.00
6/13/81	290.00	324.25	300.00	330.00
6/20/81	290.00	324.25	300.00	330.00
6/27/81	290.00	324.25	300.00	330.00
7/04/81	290.00	324.25	300.00	330.00
7/11/81	290.00	324.25	300.00	330.00
7/18/81	290.00	324.25	300.00	330.00
7/25/81	290.00	324.25	300.00	330.00
8/01/81	290.00	324.25	300.00	330.00
8/08/81	290.00	324.25	300.00	330.00
8/15/81	290.00	324.25	300.00	330.00
8/22/81	290.00	324.25	300.00	330.00
8/29/81	290.00	324.25	300.00	330.00
9/05/81	290.00	324.25	300.00	330.00
9/12/81	290.00	324.25	300.00	330.00
9/19/81	290.00	324.25	300.00	330.00
9/26/81	290.00	324.25	300.00	330.00
10/03/81	290.00	324.25	300.00	330.00
10/10/81	290.00	324.25	300.00	330.00
10/17/81	290.00	324.25	300.00	330.00
10/24/81	290.00	324.25	300.00	330.00
10/31/81	290.00	324.25	300.00	330.00
11/07/81	290.00	324.25	300.00	330.00
11/14/81	290.00	324.25	300.00	330.00
11/21/81	290.00	324.25	300.00	330.00
11/28/81	290.00	324.25	300.00	330.00
12/05/81	290.00	324.25	300.00	330.00
12/12/81	290.00	324.25	300.00	330.00
12/19/81	290.00	324.25	300.00	330.00
12/26/81	290.00	324.25	300.00	330.00

APPENDIX II

West Coast Corrugating Medium Pre-Acquisition Capacity Based on 1982 Data

Company	1982 Capacity[1]	% of Total	HHI
Willamette	202,279	13.0%	169.00
Crown Zellerbach	157,725	11.3%	127.69
Menasha	152.911[2]	9.8%	96.04
Georgia Pacific	142,000	9.1%	82.81
Longview Fibre	133,125[3]	8.5%	72.25

[1] In general, capacity is computed for the west coast producers on the basis of 355 times the tons per day (TPD) capacity reported in WX 1303, plus any shipments made by these companies into the western states from their own eastern mills as reported on CX 953A. Shipments east by these producers were not excluded, since they represent capacity which is usable in the west.

In the case of eastern producers with western box shops, capacity is the west coast medium consumption for January through September 1982, annualized, taken from the WX 1200 series of exhibits.

In the case of other eastern shippers, the capacity figure is the same as their "Trans-Rockies Shipments" shown on CX 953.

[2] Menasha's capacity is based on Weyerhaeuser's current experience, at the North Bend mill, following incremental additions to capacity since the acquisition, as indicated in n. 22 to WX 1303.

[3] Longview Fibre's capacity is based on the testimony of Mr. Wollenberg at Tr. 621 and includes the "swing" capacity available at that mill.

	Initial Decision		106 F.T.C.
Weyerhaeuser	121,630	7.8%	60.84
Container Corp.	109,804	7.0%	49.00
Boise Cascade	97,625	6.3%	39.69
Louisiana Pacific	95,850	6.2%	38.44
Owens-Illinois	65,973	4.2%	17.64
[***]	[***]	[***]	[***]
International Paper	56,821	3.6%	12.96
Champion	36,317	2.3%	5.29
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
Packaging Corp.	20,961	1.3%	1.69
Other eastern mills[4]	31,838	2.0%	4.00
Totals	1,557,739	99.7	799.14

CR–2 24.3%
CR–4 43.2%
CR–8 72.8%

APPENDIX III

West Coast Corrugating Medium Post-Acquisition Capacity Based on 1982 Data

Company	1982 Capacity[1]	% of Total	HHI
Weyerhaeuser	274,280	17.6%	309.76
Willamette	202,279	13.0%	169.00
Crown Zellerbach	157,725	11.3%	127.69
Georgia Pacific	142,000	9.1%	82.81
Longview Fibre	133,125	8.5%	72.25
Container Corp.	109,804	7.0%	49.00
Boise Cascade	97,625	6.3%	39.69
Louisiana Pacific	95,850	6.2%	38.44
Owens-Illinois	65,973	4.2%	17.64
[***]	[***]	[***]	[***]
International Paper	56,821	3.6%	12.96
Champion	36,317	2.3%	5.29
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
Packaging Corp.	20,961	1.3%	1.69
Other eastern mills[2]	32,099	2.0%	4.00
Totals	1,557,739	99.7%	952.02

CR–2 30.6%
CR–4 51%
CR–8 79%

[4] "Other eastern mills" include Alton Boxboard Co., Consolidated Packaging, Continental Forest Industries, and Stone Container Corp.

[1] Capacity is computed in this table in the same manner as in Appendix II. In the case of Weyerhaeuser, the North Bend mill capacity has been added from Menasha's capacity in Appendix II.

[2] "Other eastern mills" include Menasha, as well as the others named in n. 4 to Appendix II.

OPINION OF THE COMMISSION

BY MILLER, *Chairman:*

This case presents the question of whether the acquisition by respondents Weyerhaeuser Company and Weyerhaeuser West Coast, Inc., of a corrugating medium mill in North Bend, Oregon from Menasha Corporation violates Section 7 of the Clayton Act[1] and Section 5 of the Federal Trade Commission Act.[2] Specifically, the complaint charges that the acquisition may substantially lessen competition in the production of corrugating medium in the eleven-state region west of the Rocky Mountains. Complaint counsel ask that respondents be required to divest the North Bend mill.[3]

Following evidentiary hearings Administrative Law Judge John J. Mathias concluded that complaint counsel had failed to establish the illegality of the acquisition, and ordered the [2] complaint dismissed. Complaint counsel appeal from this initial decision, claiming error in Judge Mathias' definition and analysis of the relevant market, and in his assessment of the likely effects of the acquisition on competition.

We agree that the ALJ improperly defined the relevant geographic market, and we also take exception to certain other portions of his analysis. Because of the antitrust record of the firms in the industry, this is a closer case than it otherwise would be. However, as a result of our consideration of the characteristics of the industry, we agree with the ALJ's ultimate conclusion that this acquisition does not threaten competition. We therefore dismiss the complaint. [3]

I. BACKGROUND

A. *The Acquisition and the Transacting Parties*

On December 24, 1980, respondent Weyerhaeuser Company ("Weyerhaeuser")[4] formalized an agreement with Menasha Corporation ("Menasha") for the purchase of certain Menasha assets, including its corrugating medium mill in North Bend, Oregon. (IDF 7.)[5] The

[1] 15 U.S.C. 18 (1982).

[2] 15 U.S.C. 45 (1982). The FTC Act is considered *in pari materia* with the Clayton Act. *See American Medical International, Inc.*, 3 Trade Reg. Rep. (CCH) ¶22,170 at 23,038 (104 F.T.C. 1, July 2, 1984). "This construction allows for using cases decided under any of the antitrust laws in dealing with cases brought by the Commission." *Atlantic Refining Co. v. FTC*, 344 F.2d 599, 606 (6th Cir.), *cert. denied*, 382 U.S. 939 (1965).

[3] Complaint Counsel's Appeal Brief, Appendix B ("Proposed Order").

[4] Weyerhaeuser Company and the two wholly-owned subsidiaries used in the challenged acquisition, Weybuy, Inc. and Weyerhaeuser West Coast, Inc., will be referred to here collectively as "Weyerhaeuser."

[5] The following abbreviations are used in this opinion:

ID	– Initial Decision Page Number.
IDF	– Initial Decision Finding Number.
Tr.	– Transcript Page Number.
CX	– Complaint Counsel's Exhibit, followed by its number and the referenced page(s).
RX	– Respondents' Exhibit followed by its number and the referenced page(s).
CAB	– Complaint Counsel's Appeal Brief Page Number.

(footnote cont'd)

acquisition of the North Bend mill is the [4] only aspect of the transaction challenged by the complaint. (IDF 8.)[6]

Corrugating medium is a paper product used almost exclusively in the fabrication of corrugated board, which, in turn, is used almost exclusively in the manufacture of corrugated containers (or, simply, "boxes"). (IDF 22.) In fabricating corrugated board, medium is used to form the fluted inner layer, and another paper product known as "linerboard" (or "liner") is used to form the flat outer facings. (IDF 24.) Together, medium and linerboard are generically referred to as "containerboard." (*Id.*)

Prior to and after the challenged acquisition, both Weyerhaeuser and Menasha were engaged in the production of containerboard. Weyerhaeuser is a large, integrated forest products company, which derived about $4.1 billion of its total 1981 sales of $4.5 billion from three forest products business segments: (1) building materials; (2) pulp, newspring, paper, and paperboard products; and (3) paperboard and packaging products, including containerboard. (IDF 1–2.) Prior to the challenged acquisition, Weyerhaeuser operated three medium mills (located in [5] Longview, Washington; Valliant, Oklahoma; and Plymouth, North Carolina (IDF 4)), and three linerboard mills (in Springfield, Oregon; Valliant, Oklahoma; and Plymouth, North Carolina (IDF 5)). Weyerhaeuser operates approximately thirty corrugated box plants. (CX 651, Stipulation 3.)

Menasha is also primarily a forest products company, conducting a major portion of its operations in the manufacture of medium and corrugated containers. (ID 6 n.3.) After the acquisition, Menasha continued to operate one medium mill in Otsego, Michigan (*id.*), and seven corrugated box plants in midwestern and eastern states. (CX 651, Stipulation 5.)

B. *The Complaint*

The complaint, issued on February 9, 1981, named Weyerhaeuser Company and Weybuy, Inc. as respondents. Weybuy, Inc. was eventually succeeded by Weyerhaeuser West Coast, Inc., which was sub-

RAB – Respondents' Answering Brief Page Number.
CCRB – Complaint Counsel's Reply Brief Page Number.
CF – Complaint Counsel's Proposed Findings of Fact, Conclusions of Law and Order.
CB – Complaint Counsel's Brief in Support of Proposed Conclusions of Law.
RF – Respondents' Proposed Findings of Fact and Conclusions of Law.
RB – Respondents' Memorandum of Law In Support of Proposed Findings of Fact and Conclusions of Law.
CRB – Complaint Counsel's Reply to Respondents' Proposed Findings of Fact and Conclusions of Law.
RRB – Respondents' Reply to Complaint Counsel's Proposed Findings of Fact, Conclusions of Law, and Order.
IC – *In Camera.*

[6] In addition to the North Bend mill, Weyerhaeuser acquired from Menasha a 710-acre unimproved mill site in North Bend, three wastepaper collection facilities (two in Portland, Oregon and one in Eugene, Oregon), a box plant in Anaheim, California, an interest in Valley Crate Corporation, and $8.3 million of net working capital. (IDF 7.)

stituted as co-respondent on February 1, 1982. (*Id.*) Weyerhaeuser and Menasha were, at the time of the North Bend acquisition, and continue to be, engaged in "commerce," as that term is defined in Section 1 of the Clayton Act[7] and Section 4 of the FTC Act.[8] (CX 651, Stipulation 76.)

The complaint charged that Weyerhaeuser's acquisition of Menasha's North Bend Mill violated Section 7 of the Clayton Act and Section 5 of the FTC Act. It alleged that the production of corrugating medium constituted the relevant product market, and [6] that the eleven-state region west of the Rocky Mountains constituted the relevant geographic market for assessing the acquisition.[9]

The complaint alleged that the acquisition would "eliminate Menasha as a competitive entity . . . in the [w]est [c]oast market," thus "eliminat[ing] substantial actual competition. . . ."[10] It further alleged that the acquisition would greatly increase concentration in a market already "substantially concentrated." Using 1979 production figures, complaint counsel alleged that:

> Menasha and Weyerhaeuser ranked third and seventh, with 13.07 percent and 7.44 percent [market shares], respectively. The acquisition would make Weyerhaeuser the number one firm in the region, with 20.51 percent of [w]est [c]oast corrugating medium production.[11]

Four-firm concentration, as computed by complaint counsel, would increase from 53.27 percent to 60.71 percent; and eight-firm [7] concentration would rise from 85.39 percent to 91.32 percent.[12] The complaint also argued that high entry barriers are present in this market,[13] a condition which, if it exists, would dampen the competitive response to price increases by market incumbents.

The complaint requested that the Commission prohibit Weyerhaeuser from consummating "the proposed acquisition of Menasha;" prohibit it for a period of ten years from acquiring another company in the medium market without obtaining prior FTC approval; require

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[7] 15 U.S.C. 12 (1982).

[8] 15 U.S.C. 44 (1982).

[9] Complaint counsel define "west coast market" as including the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[10] Complaint ¶ 14.

[11] *Id.* ¶ 11. The market share statistics we derive differ slightly from those contained in the complaint as a result of the use of more recent (1981) data, and the inclusion of shipments into the west coast from outside the region. Further, we note that the complaint does not discuss the Herfindahl-Hirschman Index ("HHI") measurement of concentration in this market. We provide these numbers later in the opinion because of our belief that HHI figures are generally preferable to simple concentration ratios for analyzing market structure. *Grand Union Co.*, 102 F.T.C. 812, 1053–54 & n.47 (1983). *See* U.S. Department of Justice Merger Guidelines at § 3.1 (June 14, 1984), *reprinted in* 2 Trade Reg. Rep. (CCH) ¶4490, at 6879–13 ("1984 Guidelines") and Statement of the Federal Trade Commission Concerning Horizontal Mergers at 2–3 (June 14, 1982), *reprinted in* 2 Trade Reg. Rep. (CCH) ¶4515 at 6901–2 ("FTC Statement").

[12] Complaint ¶ 14.

[13] *Id.* ¶ 12.

it to file compliance reports with the FTC; and grant any additional relief appropriate to the case.[14]

C. *Procedural History*

Before the complaint was filed, the Commission sought to enjoin the pending acquisition, pursuant to Section 13(b) of the FTC Act.[15] After conducting an evidentiary hearing on the FTC's motion for a preliminary injunction, the United States District Court for the District of Columbia denied the motion and allowed the acquisition to go forward, subject to the terms of a hold-separate order.[16]

Following some procedural skirmishes, the U.S. Court of Appeals for the D.C. Circuit upheld the District Court's order, [8] including the hold-separate requirement.[17] Subsequently, the District Court entered a second order, implementing more fully the hold-separate arrangement, which remains in effect. (ID 2–3.) Accordingly, complaint counsel seek an order undoing, rather than preventing, Weyerhaeuser's acquisition of the North Bend mill. (CAB 1; CB 231–39.)

D. *The Initial Decision*

The ALJ's Initial Decision was issued on October 11, 1983. He concluded that complaint counsel had failed to prove that the North Bend acquisition may substantially lessen competition or tend to create a monopoly, and ordered the complaint dismissed. (ID 5.)

Judge Mathias readily concluded that corrugating medium constitutes the relevant product market. (ID 86–87.) The question of what constitutes the relevant geographic market proved considerably more difficult. After reviewing the evidence concerning the production, marketing, and consumption of containerboard, Judge Mathias concluded that a national market exists for corrugating medium. (ID 87–91.) Considering Weyerhaeuser's post-acquisition share of "total national capacity," he found that "the concentration level [created by the North Bend acquisition] is obviously of no concern,"[18] judged [9] against the standards set out in the 1982 Department of Justice Merger Guidelines.[19] (IDF 183.)

Judge Mathias also held, alternatively, that "the concentration figures in this case would not support the finding of a violation even

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[14] *Id.*, "Notice of Contemplated Relief."

[15] 15 U.S.C. 53(b) (1982).

[16] *FTC v. Weyerhaeuser Co.*, 1981–1 Trade Cas. (CCH) ¶ 63,974 (D.D.C. 1981).

[17] *FTC v. Weyerhaeuser Co.*, 665 F.2d 1072 (D.C. Cir. 1981).

[18] The record indicates that the merger increased four-firm concentration in a national "market" from 31 percent to 34 percent. The national HHI increased 36 points, from 454 to 490. RX 1354, 1355; RF p. 201, Table IV–2.

[19] *Reprinted in* 2 Trade Reg. Rep. (CCH) ¶4500. This version of the Guidelines has been superceded by the 1984 Guidelines, *supra* note 11, since the release of the Initial Decision. However, both versions use the same HHI scale. *Compare* Section III.A of the 1982 Guidelines with Section 3.1 of the 1984 Guidelines. The Guidelines state that the Justice Department will not challenge mergers resulting in a post-merger HHI below 1000, "except in extraordinary circumstances."

if it were determined that a west coast market existed." (ID 94.) He calculated market shares in this hypothetical market on the basis of west coast plant capacity *plus* the capacity of "eastern" medium producers with corrugated box plants in the west coast region ("to the extent necessary for the supply of those box shops in the event of a collusive curtailment of supply on the west coast"). (ID 93.) Using this definition, he found that the post-acquisition Herfindahl-Hirschman Index ("HHI")[20] in the west coast market would be 952.02, "showing an increase . . . of about 150 points." (ID 94.) Judge Mathias determined that this change in concentration "falls below the critical level of the Justice Department *Guidelines*," (*id.*)—that is, a post-merger HHI of 1000. He further reasoned that the HHI figure for a west coast market probably understated the competitive rigor of the market, for three reasons: **[10]**

> (1) entry barriers are very low, especially for eastern mills and through the expansion of production by western mills . . . ; (2) there has been no appreciable trend toward concentration in that "market" up to the time of this acquisition; and (3) the "market" has shown a great deal of volatility in market shares in the recent past. (ID 92, citing IDF 195–226.)

Judge Mathias thus concluded that the North Bend acquisition had not been shown to threaten competition in medium production, either in a national or a west coast market.

II. ANALYSIS

A. *Overview*

We adopt Judge Mathias' definition of corrugating medium as the relevant product market, but reject his finding of a national geographic market. Instead, we find the west coast market posited by complaint counsel to be the relevant geographic market. We then consider the likely effects of the acquisition in the west coast market by examining, as required by merger case law, both "qualitative factors—the market's 'structure, history, and probable future'—and quantitative factors."[21] As a result of this inquiry, we conclude that the market would not be likely to suffer a substantial lessening of competition as a result of the challenged acquisition. We therefore dismiss the complaint. **[11]**

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[20] "The HHI is calculated by summing the squares of the individual market shares of all the firms included in the market. . . ." 1984 Guidelines, *supra* note 11, at 6879–13.

[21] *American Medical International, supra* note 2, at 23,043 (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 322 n.38 (1962)).

B. *The Corrugating Medium Market*

There are two basic types of corrugating medium: semichemical and recycled. (IDF 32.) These two types differ primarily in the types of raw materials required for their manufacture. Semichemical medium is produced using wood fiber, typically hardwood. In some cases, recycled fiber is mixed with wood fiber in making semichemical medium. (IDF 32–33.) Recycled medium is made entirely from recycled materials, including old corrugated containers and wastage from box plant operations. (IDF 32, 37–38.) The operation of semichemical and recycled mills differs principally in the processes used to convert their respective raw materials into pulp. (IDF 40–41.) Beyond the pulping stage, the mills use essentially identical manufacturing processes. (IDF 44–45.) Semichemical mills tend to be larger than recycled mills. The minimum efficient size for a semichemical mill is estimated to be roughly 600 tons per day; a recycled mill's minimum efficient size is roughly 300–500 tons per day. (IDF 46–47.)

There are 33 semichemical and 21 recycled mills in the United States, for a total of 54 medium facilities. (IDF 48.) This number includes four "swing mills" (RX 1354–55 IC), capable of producing either linerboard or medium. (IDF 81.) These medium facilities are operated by some 35 different companies. (RF p. 201, Table IV–2.)

In the 11 states of complaint counsel's west coast market, 13 medium mills—seven semichemical and six recycled—were operated by 12 companies, before the challenged [12] acquisition. (IDF 48.) This number includes two swing mills.[22] (IDF 82.)

Domestic production and capacity in the containerboard industry have grown significantly in recent years. (IDF 150.) Medium production increased by almost 34 percent, from 4,264,000 tons to 5,702,100 tons, between 1970 and 1981. (RX 1338–N.)

Virtually all medium is used to produce corrugated containers. (CX 651, Stip. 43.) Box plants have diverse containerboard needs, and thus vary their orders of medium as to weight, width, grade, and other specifications. (IDF 54.) As a result, medium is typically manufactured to fill specific customer orders. (IDF 61.) Because it is perishable, medium is difficult to store for long periods of time, and is thus not generally produced for or sold out of inventory. (IDF 61, 63–65.)

Many producers of medium and linerboard also manufacture boxes. (IDF 86.) In 1979, at least 30 of the 41 domestic producers of medium also produced corrugated boxes. (IDF 87.) In the west coast region, 10 of the 11 companies producing medium also operated box plants in the

[22] Swing mills are operated by Crown Zellerbach, in Antioch, California, and by Longview Fibre, in Longview, Washington. Willamette's Port Hueneme, California, operation may also have the capacity to "swing" to liner production. Because the record is not clear on this point, and because the facility had always produced medium at the time of the hearing below (CF 2–42), we will treat the mill as a medium facility.

region. (IDF 87, 124, 126–27.) At the time of the North Bend acquisition, Weyerhaueser operated approximately 30 corrugated container plants (including eight in [13] the west coast region), and Menasha operated eight such plants (one in the west). (CX 651, Stipulations 3, 5.)

Given this level of integration of medium and box production, it comes as no surprise that "most of the corrugating medium produced is consumed internally or indirectly through exchanges, by [box] plants owned by containerboard producers." (IDF 88.) Weyerhaeuser, for example, internally consumes about 70 percent of its containerboard production in its own box shops. (*Id.*)

Indirect consumption, through so-called "exchange agreements," is an important aspect of the functioning of this industry. Such agreements are generally negotiated on an annual basis. The parties in effect, coordinate two buy-and-sell obligations, typically by means of a ton-for-ton exchange of product. In an exchange, or "trade," "one producer ships medium or linerboard to a second producer's box plant in exchange for shipments of medium or linerboard to one of the first producer's box plants." (IDF 90.) Exchanges are similar to open market sales in the way payments are made. Typically, each delivery is separately invoiced and paid for: "money changes hands as it would in a direct sale or purchase." (IDF 101.) In order to avoid direct price communications between competitors, exchange agreements typically are executed using the prices reported in [14] *Official Board Markets* ("OBM"), an independent publication that reports containerboard prices. (IDF 102.)[23]

Although the vast majority of medium is consumed directly or indirectly (through exchanges) by the manufacturers, some medium is sold on the open market. "Independent" box plants (those without captive medium capacity), as well as some integrated producers, purchase medium in open market transactions. (IDF 109–10.) There are also independent brokers who "make a market" in medium. (IDF 112–17.)

It is clear that the open market represents the smallest portion of the medium market. Thus, on the west coast:

> only about 12% of the medium consumed was sold on the open market, with about 24% being utilized by the box plants of eastern producers (primarily through trades) and about 64% being consumed in the box plants of the west coast medium producers. (IDF 111.)

[23] OBM prices are characterized as those " 'announced to customers by major board producers.' " (IDF 102, citing RX 1508 A–4.) OBM apparently generates price information through contacts with independent box producers. (Tr. 1516 (testimony of Dr. David Kamerschen).)

Because the OBM price does not always reflect the prevailing market price, *see* pp. 16–17, *infra*, a box plant purchasing medium through an exchange frequently receives an intra-company adjustment or rebate to bring its cost into line with its company's then-prevailing internal transfer price. (IDF 104.)

C. *Recent History of the Industry*

Complaint counsel's major arguments with respect to both geographic market definition and likelihood of anticompetitive effects hinge on their interpretation of cost and price movements in the industry during the period 1973–1983. A preliminary [**15**] sketch of this history will facilitate our consideration of complaint counsel's legal arguments.

We will use the medium price lists published in OBM as a first approximation of the price levels in the industry. OBM publishes prices for sales of various paperboard products in five regions: New England, Middle Atlantic, South and South Central, North Central, and West Coast. (CX 634–A.) Because medium prices in all the regions except the West Coast historically have been identical at any given time, changes in OBM medium prices will be discussed in terms of prices (1) in the west, and (2) in the other four regions (the "east"), during the period in question.

From January 6, 1973, to April 12, 1980, OBM showed the prices of eastern and western medium changing simultaneously, consistently reflecting a $4.25 differential between eastern medium and the higher-priced western medium. (ID, Appendix I.) The $4.25 differential was the result of higher raw material and transportation costs facing western mills. (CRB p. 23 n.2; CX 30.)

On April 12, 1980, OBM reported a dramatic increase in the east-west price differential: OBM's western medium price rose $30, to $294.25, while the eastern price remained unchanged at $260. The western price increase was triggered by increases in the cost of wood chips on the west coast, resulting from an increase in chip exports from the region during 1979–80. (IDF 121.) Later in 1980, a recession struck the construction industry. (CAB 33 n.1.) As a result, the supply of residual [**16**] chips, which are a derivative product of lumber milling operations, decreased. Chip prices again increased; because western mills tend to utilize residual chips and eastern mills tend to utilize more pulpwood (*i.e.,* trees cut and chipped expressly for paper manufacturing), this price increase had a differentially stronger effect on western costs and prices. (CCRB 8 n.3; CRB p. 22 n.3.)

During this period, OBM reported the following price changes:

OBM Medium Prices (Per Ton)

Week	East	West
4/12/80	$260	$294.25
5/3/80	290	294.25
5/24/80	260	294.25
1/10/81	290	294.25
4/18/81	290	324.25

(ID, Appendix I.)

The record indicates that the $34.25 east-west differential was reported in OBM throughout 1982. (CX 953–A; ID 33 n.11.)

It would be incorrect, however, to assume that OBM prices provide a complete picture of actual transaction prices during all of 1981–82. In the first place, OBM "expressly disclaims that its reported price portrays the range of transaction prices [17] at any given time." (IDF 246.)[24] Most importantly, OBM prices do not reflect discounts offered in individual transactions. (ID 73 n.25; IDF 248.) Thus, in periods of weak demand, when sellers are most likely to offer below-list prices, OBM prices do not accurately reflect actual prices of open market transactions. (IDF 249.)

In fact, demand for medium began to drop all across the country during the fourth quarter of 1981, and continued to fall during 1982. (IDF 239–40.) The record contains evidence of numerous sales made below list price, beginning in the fall of 1981. Discounts from OBM prices became larger and more common as 1982 wore on, as evidenced by the reductions in firms' transactions prices. (IDF 241–42, 248.) Weyerhaeuser, for example, cut its west coast transactions price for medium from $324.25 to $295 in April 1982, and further reduced it to $270 in August of that year. (RX 1333–K,L IC.) In the east, Weyerhaeuser's medium transactions price fell from $290 to $260, and then to $240, over roughly the same period. (*Id.*) Weyerhaeuser's pricing pattern appears to have been typical of the industry, with the result, noted by the ALJ, that the east-[18]west price differential "was approximately the same ($30–35) on a transaction basis as on the basis of OBM prices during this time." (ID 33 n.10.)

By March, 1983, OBM was reporting an east-west differential in the $10–14 range, with eastern medium listed at $260 and western at $274. (ID 33 n.11; CRB p. 21 n. 1; Tr. 2509 (testimony of Michael Brown).)

D. *Relevant Markets*

Fixing the "line of commerce" and "section of the country" in which a merger is to be analyzed under Section 7 of the Clayton Act involves defining the product and geographic markets relevant to antitrust concerns.[25] As the Commission recently noted, scrutiny of challenged

[24] OBM states that:

> The prices tabulated here are intended only as a reference standard to the current levels commonly prevailing in a representative proportion of U.S. contract transactions, as announced to customers by major board producers. The prices listed do not connote any agreement or commitment by any producer to sell material at the price indicated, or at any price predicated on the price listed. Transactions may be concluded at any time at any price agreed upon by seller and purchaser. (RX 1508 A–4).

[25] *American Medical International, supra* note 2, at 23,038–39.

horizontal mergers "has focused on the extent to which the mergers confer market power on the acquiring firm or enhance the ability of firms to collude, either expressly or tacitly."[26] Obviously, then, the specification of [19] the product and geographic markets in which market power could be exercised successfully is crucial to evaluating the competitive effect of a proposed horizontal acquisition.

For antitrust purposes, market definition properly involves an assessment of the responsiveness of buyers and sellers in the hypothetical market to price changes. In economists' parlance, measures of supply and demand elasticity and cross-elasticity would, ideally, provide the information necessary to accurately define these markets.[27] However, "[i]n most instances, adjudicators and policymakers do not have very precise estimates of [these] figures."[28] The typical case, in this world of less than perfect information, involves a search for reasonable bases from which to infer the price-responsiveness of supply and demand in the proposed product and geographic markets.

1. Product Market

Under Supreme Court doctrine, "a relevant product market for Section 7 analysis may be defined in terms of the 'cross-elasticity of demand' or the 'reasonable interchangeability of use' between the product in question and proposed potential substitutes."[29] In this case, the record demonstrates that there are no close substitutes for corrugating medium. (IDF 156.) Most importantly, linerboard, though a complementary good, cannot [20] be substituted for medium, since the two have different structural characteristics and are used to provide different strengths to corrugated board: the former provides "burst strength and tear strength" while the latter provides "stiffness, rigidity, crush strength, and compression strength." (IDF 28, 26.) There is no evidence of any other products which could be substituted economically for medium. (IDF 156.)

In addition to demand-side interchangeability, the Commission inquires into supply-side flexibility.[30] In this case, there appear to be no non-medium facilities, aside from the few "swing mills" which can produce either medium or linerboard, that could be economically converted to medium production. (IDF 159–65.) Thus, we conclude, as did Judge Mathias, that "supply-side flexibility is minimal" and "insufficient to include any other paper product within the same relevant product market as corrugating medium." (IDF 165.)

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[26] FTC Statement, *supra* note 11, at 6901–2.

[27] *Grand Union*, *supra* note 11, 102 F.T.C. at 1039–41.

[28] *Id.* at 1040.

[29] *Id.* at 1041–42.

[30] FTC Statement, *supra* note 11, at 6901–6 ("a high cross-elasticity of supply tends to suggest the existence of

Further indications supporting a medium-only product market include: separate and distinct prices for medium and liner; evidence of industry recognition of a separate market for liner and of planning by medium producers based solely on their estimation of the market plans of other medium makers; and the absence of evidence of medium customers (or producers) substituting another product for medium as a result of price differentials. (IDF 166.) [21]

In short, the evidence available to us points consistently to a product market composed only of corrugating medium. We will include in this product market the captive production and consumption of medium, as well as the medium produced for use in exchange agreements and for sale in the open market. This is consonant with our recent discussion of the problem posed by captive production:

> Captive production should ordinarily be treated as part of the relevant product market in merger cases when, as the Justice Department has suggested, a "small but significant and nontransitory" price increase is likely to induce vertically integrated firms to increase production of the relevant product, either for outside sales or to increase their own downstream sales.[31]

Here, the market share calculations offered by complaint counsel and by Weyerhaeuser included captive production (or sales). The propriety of this approach was thus not disputed below. Moreover, we find no record evidence which supports the exclusion of captive production. Therefore, we will treat it as part of the relevant product market.

2. Geographic Market

As noted, Weyerhaeuser asserts the existence of a nationwide market for medium, while complaint counsel urge the adoption of a geographic market definition limited to the eleven states west of [22] the Rocky Mountains. The arguments offered by both sides will be evaluated within the framework for defining geographic markets set forth in our *Grand Union* decision, which stated that the Commission would consider:

> the extent of different price changes and patterns from region to region; the level of barriers to trade flow between regions (including high transportation costs relative to product value); the degree of product shipping from one region to another (*i.e.*, transshipment); and the perceptions of competition from distant firms on the part of industry members.[32]

Weyerhaeuser argues that the similarities in price movements be-

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[31] *B.A.T. Industries, Ltd.*, 3 Trade Reg. Rep. (CCH) ¶22,218 at 23,205 (104 F.T.C. 852, December 17, 1984) (citing 1984 Guidelines, *supra* note 11, at 6879–10). *See also International Telephone & Telegraph Corp.*, 3 Trade Reg. Rep. (CCH) ¶22,188 at 23,086–87 (104 F.T.C. 280, July 25, 1984).

[32] *Grand Union*, *supra* note 11, 102 F.T.C. at 1041.

tween the eastern and western markets during 1973–83 "are strong evidence of a single market" (RAB 20), citing Areeda and Turner for the proposition that "[w]hen prices and price movements in two territories are closely correlated, a single market definition is strongly indicated."[33] This is the same general view adopted by Judge Mathias.[34]

Complaint counsel view medium's pricing patterns in 1980–82, as reported by OBM, as evidence from a "natural experiment" as to geographic markets: because the $34.25 price differential between east and west did not attract sufficient entry (particularly in the form of increased sales by eastern mills) to narrow the differential, no single national market exists. [23]

> If there were a national market, it would not have been possible for West Coast prices to increase by $30 (an increase from about 2% higher than eastern prices to about 11% higher) in April 1980 and to remain at this higher level for a period of nearly three years. . . . In a national market, a price increase of this magnitude on the West Coast would rapidly draw shipments from other regions, thereby causing prices to decline on the West Coast or to rise in the other regions, and restoring the price differential to its equilibrium level. Since this clearly did not happen, simply looking at the pricing history in the industry should be almost enough to convince one that the West Coast is a separate market. (CAB 22 (footnotes omitted).)

Complaint counsel bolster their argument by reference to consumption and shipment figures for the west coast region:

> [O]ver a period of almost six years, spanning a wide variety of market conditions, more than 90% of the medium consumed on the West Coast was produced in that region, and more than 90% of the medium produced on the West Coast was consumed there. (CAB 10, citing CX 953.)

Supporting complaint counsel's argument is the ALJ's finding that the transportation costs involved in east-to-west shipments were not covered by the east-west price differential at any time described in the record, "even during the period when [the OMB east-west price differential] was at $34.25." (IDF 123.) Furtl.er, Judge Mathias concluded that the east-west price differential was unlikely to cover the transportation cost differential "in the near future . . . barring a renewal of the deep recession in the housing industry which occurred in 1981 and 1982." (ID 33 n.11.)

In response to complaint counsel's claim of a "natural experiment," Weyerhaeuser raises record evidence of an [24] increase in the percentage of medium consumed in the west provided by eastern mills

[33] *Antitrust Law* ¶ 522 at 355 (1978). *Accord,* 1984 Guidelines, *supra* note 11, at 6879–11; FTC Statement, *supra* note 11, at 6901–7.

[34] ID 90–91 (eastern and western prices move in " 'lock-step fashion' ").

after the $34.25 differential showed up in the OBM price lists in April, 1980:

Year		Percent
1977	—	5.9
1978	—	8.8
1979	—	6.9
1980	—	5.5
1981	—	7.6
1982	—	9.6

(IDF 137.) Thus, Weyerhaeuser points to an increase from 5.5 percent of western consumption in 1980 (the year the large differential appeared) to 7.6 percent in 1981 and 9.6 percent in 1982. Moreover, Weyerhaeuser notes that a large number of eastern medium producers have served their own, or other customers', western needs. During the period 1977–82, 16 different companies shipped medium to the west coast from 21 different eastern mills. (IDF 135; CX 953A.)[35]

Complaint counsel treat this evidence as completely beside the point:

> [W]hatever increases [in east-west shipments] did occur clearly were insufficient to cause any movement in the relative [east-west] price differential. . . . Thus, the natural experiment remains a most compelling demonstration of a separate [w]est [c]oast market. (CAB 21.) **[25]**

As a logical matter, any increase in the east-west price differential brings the medium market somewhat closer to a substantial supply response from eastern mills. The key in defining a geographic market, however, is not whether any shipments are made into a given area, but rather whether the shipments from outside are or could be substantial enough to significantly influence prices and price movements in the area.[36] On this record, it does not appear that the increase in east-to-west shipments during the existence of a $34.25 price differential ever had a significant effect on the size of the differential. Instead, a shift in the relationship of eastern to western fiber costs appears to have been the cause of the narrowing of the differential to the $10–$14 range in the spring of 1983. (CR 1–24, 1–25.)

Given the high level of within-region consumption of west coast medium and the low level of "exports" of west coast medium, the ALJ's finding that it is unlikely (barring another severe housing

[35] Of these 21 mills, eight were owned by companies with box plants in the west coast region; seven were owned by companies with west coast medium mills and box shops; and six of the mills had no proprietary relationship with a west coast box plant. (IDF 133.) As a percentage of western consumption, medium shipped in from the east by integrated firms operating only box shops in the west went from 3.4 percent in 1979 to 2.6 percent in 1980, 4.0 percent in 1981, and 4.2 percent in 1982. (CAB 14.)

[36] *Dairymen, Inc.*, 102 F.T.C. 1151, 1163 n.4 (1983) (Douglas, Comm'r, concurring).

recession), that the east-west price differential will exceed the relevant transportation costs, and the fact that a price differential of roughly 11 percent did not induce significant eastern entry into the west coast market, we conclude that the geographic market hypothesized by complaint counsel is the correct market for the purposes of our analysis. [26]

E. *Effect of the Acquisition on Competition*

The ultimate question in a Section 7 case is whether the effect of the challenged acquisition "may be substantially to lessen competition, or to tend to create a monopoly" in the relevant market.[37] Section 7 does not, by its own terms, "prescribe any particular methodology" for answering this question.[38] In practice, the Supreme Court has developed a two-step test for evaluating horizontal mergers.

In the first step, market share statistics are treated as a proxy for the danger that the challenged merger will create market power. The initial question, then, is whether the merger

> produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market, [such that] it is . . . inherently likely to lessen competition substantially. . . .[39]

A finding of *prima facie* illegality on the basis of concentration statistics can be rebutted by a showing that "the merger is not likely to have such anticompetitive effects."[40] This second step of the analysis requires that the merger be "functionally viewed, in the context of its particular industry."[41] Thus, while market share evidence is "an important [27] starting point in merger analysis, it alone is not conclusive in determining the legality of a merger under Section 7."[42] Put another way, "a substantial existing market share is insufficient to void a merger where that share is misleading as to actual future competitive effect."[43] "[O]nly a further examination of the particular market—its structure, history and probable future—can provide the appropriate setting for judging the probable anticompetitive effect of the merger."[44]

Our review of the facts of this case lead us to conclude that complaint counsel have failed to show that it is reasonably probable that the North Bend acquisition would substantially lessen competition.[45]

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[37] 15 U.S.C. 18 (1982).

[38] *American Medical International, supra* note 2, at 23,043.

[39] *United States v. Philadelphia National Bank*, 374 U.S. 321, 363 (1963).

[40] *Id.*

[41] *Brown Shoe, supra* note 21, 370 U.S. at 321–22.

[42] *American Medical International, supra* note 2, at 23,043. *See also Beatrice Foods Co.*, 101 F.T.C. 733, 819 (1983).

[43] *United States v. Waste Management, Inc.*, 743 F.2d 976, 982 (2d Cir. 1984).

[44] *Brown Shoe, supra* note 21, 370 U.S. at 322 n.38.

1. Market Concentration

The premerger market concentration figures, based on 1981 data for the mills located in the eleven states of the west coast region, are as follows:[46] [28]

Firm	Percent
Crown Zellerbach	13.26
Willamette	12.11
Georgia-Pacific	11.76
Menasha	11.26
Weyerhaeuser	9.38
Container Corp.	9.16
Longview Fibre	8.84
Boise Cascade	7.81
Louisiana-Pacific	4.92
Inland Container	4.77
Newark Boxboard	1.73
Specialty Paper	1.68
East-to-west shipments by eastern-only producers [29]	3.30

As a result of the challenged acquisition, Weyerhaeuser became the largest firm in the market, with 20.64 percent of west coast production. The four-firm concentration ratio increased from 48.4 percent to 57.8 percent.

As always, our consideration of these statistics is guided by the Supreme Court's decision in *United States v. General Dynamics Corp.*, the last non-bank horizontal merger case decided by the Court. In that case, the Government presented an array of market share percentages and simple concentration ratios that were roughly comparable

[46] With the exception of the figures for Crown Zellerbach and Longview Fibre, these statistics are based on 1981 production, rather than capacity, information. The choice of production data over capacity data was governed by two flaws in the available capacity information: firm-to-firm variations in the definition and measurement of capacity (CPF 4–8) and rising marginal costs at less-than-capacity rates of production. (CX 924–X.) "East-to-west shipments" of firms with both western and eastern medium mills are included in those firms' market share figures. Such shipments by firms with only eastern medium facilities appear in a summary line at the bottom of the chart, but were attributed to each individual eastern firm in computing the HHI statistics.

The figures for Crown Zellerbach and Longview Fibre were computed to reflect 100 percent of the capacity of the swing mills operated by the two firms, thereby capturing the firms' ability to react to changes in the medium market by "swinging" more of their productive capacity into medium. (IDF 220–25.) During 1981, Crown produced medium at the rate of about 11 percent of its total capacity, and Longview devoted about 64 percent of its total capacity to medium production. The remainder of these firms' swing mill resources were devoted to liner production. Given that both companies do produce medium at these facilities, and that Longview devotes the majority of its mill resources to medium production, it is reasonable to suppose that both firms would react to an increase in the price of medium by expanding their medium output, to some degree. We cannot predict, with any precision, the response which would be forthcoming at any particular combination of medium and liner price levels. The inclusion of 100 percent of these two firms' swing mill capacities captures the maximum effect their presence may have on potential colluding firms in the industry. We should note, however, that our counting only actual production by Crown and Longview would not alter the market concentration statistics to a decisionally significant degree, given the non-statistical facts of this case. Source: CPR p. 27; CX 953.

to the west coast figures in this case.[47] The Supreme Court concluded that the Government's showing would "have sufficed to support a finding of 'undue concentration' in the absence of other considerations."[48] Under the *General Dynamics* benchmark, the concentration figures in the matter before us suggest a *prima facie* violation.

We note also that the acquisition increased the HHI by 211 points, from 955 to 1166. The acquisition thus falls within the lower end of the mid-range of the Department of Justice Merger Guidelines, and calls for especially careful review of a number [30] of industry characteristics in addition to concentration in order meaningfully to assess the acquisition's effect on competition.[49]

We thus proceed to the second, qualitative step of horizontal merger analysis: the determination whether the North Bend acquisition "is not likely to have . . . anticompetitive effects."[50]

2. Industry Performance

In arguing that the acquisition will have anticompetitive effects, complaint counsel seek to portray the west coast medium industry as one prone to (at least) tacit collusion, whose performance will deteriorate even further if the acquisition is allowed to stand. Complaint counsel allege that "West Coast medium producers in fact have been able to act in their mutual and collective interest to achieve results consistent with what would be expected in the event of actual collusion." (CAB 30.)

In attempting to show that West Coast medium producers have the "ability to control the price and supply of medium in the [31] [w]est [c]oast market" (CAB 30), complaint counsel rely principally on two instances in which Weyerhaeuser and other producers took "downtime"—that is, cut production—during periods of falling demand, and on Weyerhaeuser's past antitrust compliance problems.

The "downtime" charges concern portions of the years 1974–75 and 1981–82, during which the demand for medium dropped markedly.[51] (IDF 229, 239.) Complaint counsel claim that these episodes demon-

[47] In *General Dynamics*, the government provided market share statistics for two alternative market definitions. In one market, the premerger four-firm concentration ratio was 43 percent, and the challenged merger increased the share of the acquiring firm from 7.6 percent to 12.4 percent. In the other market, the premerger four-firm figure was 54.5 percent, and the acquiring firm went from a 15.1 percent to a 23.2 percent share. 415 U.S. 486, 494–96 (1974).

[48] *Id.* at 497–98.

[49] 1984 Guidelines, *supra* note 11, at 6879–14. While the Guidelines provide useful benchmarks, it is clear that "cases falling just above and just below a threshold present comparable competitive concerns." *Id.* at 6879–13.

[50] *Philadelphia National Bank*, *supra* note 39, 374 U.S. at 363. The finding of a *prima facie* violation of Section 7 shifts the burden of going forward with the evidence to the respondent/defendant. *Kaiser Aluminum & Chemical Corp. v. FTC*, 632 F.2d 1324, 1340 & n.12 (7th Cir. 1981). The government continues to bear the burden of persuasion. *Id. See also* 9 Wigmore, Evidence Section 2489 (Chadbourn rev. 1981) (the burden of persuasion "never shifts"); *Texas Dept. of Community Affairs v. Burdine*, 450 U.S. 248, 253 (1981) (burden of persuasion in Title VII litigation "remains at all times with the plaintiff").

[51] Complaint counsel also argue that an episode of tacit coordination occurred in 1980, when an alleged decrease

strate west coast producers' "impressive ability to cut back production and to maintain stable price levels during periods of declining costs and demand." (CAB 37.) However, complaint counsel's characterization of the performance of western producers during 1974–75 as evidencing tacit collusion is seriously undercut by the similarities between developments in the western and eastern markets. The decline in demand, which [32] began in the fourth quarter of 1974, was a nationwide phenomenon, apparently due to a general economic downturn and to hoarding of boxes by customers during the just-ended period of price controls. (IDF 227, 233; CPF 6–59.) During the demand slump, which lasted through the first quarter of 1975 (CPF 6–59), eastern producers cut back their production even further than did western firms. (IDF 227, 237–38.) Given the large number of eastern medium firms—33—tacit collusion is not a promising explanation of the taking of downtime in the east. It also suggests that other factors better account for western downtime.

Indeed, the more convincing explanation lies in the increases in costs sustained by the industry. The 1974–75 drop in demand came on the heels of the removal of federal price controls in the industry. (IDF 230.) Controls had been imposed on August 15, 1971. Prices were gradually decontrolled over the period March 1973 - June 1974, with the controls being completely lifted on July 1, 1974. (IDF 230.) Judge Mathias found that medium producers' costs—including "energy, wood, wastepaper, and labor costs"—had increased substantially during the price control period, so that once the controls were lifted, the market experienced the effects of "pent-up cost pressures." (IDF 231–32.)[52] Further, costs continued to rise after the controls ended. (IDF 232, 234.) Weyerhaeuser documents confirm substantial increases in variable costs of its medium operations during 1973–75. (CX–109 Z229IC.) [33]

The combination of an increase in costs and a decrease in demand has an indeterminate effect on price in a competitive market. The cost increase tends to exert upward pressure on price, while the demand decrease has the opposite effect. Both factors, however, have the effect of placing downward pressure on the quantity traded. Thus, we cannot fault the west coast producers, on this record, for failing to lower

the document relied upon by complaint counsel, and the unclear picture in the record of the cost movements, if any, during this time. As to the first point, the Menasha document cited by complaint counsel as proof of a decrease in chip costs in the summer of 1980 (following increases of 1979 and early 1980) speaks literally only to the availability of chips, and does not contain any information about chip costs. (CX 219.) As to the second point, Weyerhaeuser disputes the importance of a decline in OCC costs, which are relevant only to recycled mills. (RAB 53 n.2.)

At any rate, it is clear that any cost disturbance in the summer of 1980 was quickly overcome by the sharp increase in chip prices which occurred later in 1980. (*See* p. 16, *supra.*) It is thus not clear that western prices had time to react to any change in costs during the summer before the effects of the recession had overtaken the industry.

[52] CX–830, a document cited in IDF 232 and challenged by complaint counsel, is not necessary to our finding here.

prices in response to the demand shift of 1974–75, or for cutting production in response to a combination of reduced demand and higher costs.

We also are not moved by the various documents offered by complaint counsel as "smoking gun"-type evidence of tacit collusion during this period. (CAB 37–39, discussing CX–66, CX–68, CX–102.) Standing alone the passages that complaint counsel have culled from these documents suggest a belief on the part of some Weyerhaeuser personnel that some form of tacit coordination was possible during the period in question. When read in context, however, these statements are either ambiguous, or paired with contradictory statements that tend seriously to reduce the weight to be given these documents. For example, complaint counsel have repeatedly cited a 1975 Weyerhaeuser document as an indication that the company views the industry as [34] susceptible to tacit collusion. (*See* CAB at 5, 39, citing CX 68–B,G.) However, the language cited by complaint counsel[53] was taken from a description of the views of some industry participants; the document goes on to reject this view, in favor of a more price-competitive scenario. (RAB 54 n.1.)[54] Moreover, we note that the lifting of price controls and the pressure of cost increases undoubtedly affected Weyerhaeuser's perception of market conditions and its assessment of the costs and benefits to it of taking downtime.

Moving to 1981–82, we note that demand decreased, and output was cut back, nationwide, beginning in the fourth quarter of 1981. (IDF 227, 240, 243.) Weyerhaeuser again admits that it cut production in response to the decrease in demand during that recession. (IDF 240.) The industry's cuts in output, however, [35] were accompanied by discounting from list prices during this period, as explained at pp. 17–18, *supra*. Price cuts and output reductions are, of course, precisely what is expected in a competitive market as a result of a decrease in demand. Complaint counsel's characterization of the 1981–82 period as one of tacit coordination thus fails. Once again, the documents cited as evidence of such coordination do not convince us that this was a serious possibility. (*Compare* CAB 39–40 with RRB p. 96.) The November, 1981, Weyerhaeuser documents cited by complaint counsel (CX–

[53] A September 1975 report of Weyerhaeuser's marketing and economic research office contains the following language:

> Prices have held despite more than a year of extremely weak demand. This shows that the industry has solved its pricing policy problems and learned that in times of weak demand, the optimal strategy is to cut production rather than prices. Each day that prices hold builds confidence that prices will hold and makes the members of the industry more willing to take downtime rather than cut prices. [CX–68G.]

[54] The other Weyerhaeuser documents discussed by complaint counsel convey an ambiguous message, when read in their entirety. Thus, CX–66 discusses downtime as a means of "hold[ing] prices at current levels," but also cautions against "[l]osing [k]ey [m]arket [p]ositions," and forecasts a decrease in box shop margins in 1975–76 "to one half their 1974 levels." Similarly, although CX–102 contains one "scenario" under which "the 1975 [liner] price was assumed to hold," the same scenario forecasts "violent price and demand swings, in the 1975–1980 period" due to "violent swings in GNP" and "the influences of price elasticity."

155, 156) do convey a desire to check price decreases through production cutbacks. However, this desire was not realized during 1982, as Weyerhaeuser was forced to cut its transactions price by approximately 17 percent nationwide, along with other medium producers. This is hardly evidence of a successful round of tacit cooperation.

Given our assessment of the 1974–75 and 1981–82 "downtime" episodes, and the uncontradicted testimonial evidence that these were the only two instances in the last 17 to 19 years in which Weyerhaeuser has taken market-related downtime (IDF 244), we must reject complaint counsel's assertion that the west coast medium industry has already demonstrated cartel-like behavior.

Complaint counsel also attack the industry's use of exchange agreements. (RAB 43–46.) They contend that the agreements make participating medium firms "closely dependent upon one another" (*id.* at 44), and "greatly facilitate [ ] noncompetitive behavior" (*id.* at 46). This danger is said to arise from "effectively eliminating price as a factor in purchase and sale agreements **[36]** among integrated producers." (*Id.* at 45). As explained earlier, the agreements are generally keyed to OBM prices. The use of OBM prices minimizes the possibility of price information being exchanged between firms in the contracting process. Given that paper industry firms have encountered antitrust problems in the past from the exchange of price information,[55] it is understandable that they might wish to avoid communications as to price, as suggested by industry testimony cited in IDF 103. While we recognize that exchange agreements may sometimes have the effect of facilitating anticompetitive conduct, we also recognize that evaluation of the effects of any particular set of agreements is a difficult task, and that the record here is not well-developed. We thus decline to use the existence of exchange agreements as an argument against the merger under review.

Complaint counsel further contend that the antitrust record of firms in the west coast medium market should be counted as a factor against allowing the North Bend acquisition. They focus specifically on the corrugated container antitrust litigation.[56] (CAB 46–47.) The paper industry's antitrust **[37]** record does give us pause. None of this litigation, however, involved the medium industry, or the western operations of the defendant companies.[57] The shipping container and containerboard industries were the subject of a grand jury investiga-

[55] *United States v. Container Corp. of America*, 393 U.S. 333 (1969).

[56] Weyerhaeuser and two of its employees were indicted for felony violations of the Sherman Act and two other employees were indicted for misdemeanor violations. Weyerhaeuser and one employee charged with a misdemeanor pled *nolo contendere*; the other employee charged with a misdemeanor and two employees charged with felony violations went to trial and were acquitted. Weyerhaeuser settled the claims of private plaintiffs in companion litigation. *See In re Corrugated Container Antitrust Litigation*, 1981-1 Trade Cas. (CCH) ¶ 64,114 at 76,693, 76,713 (S.D. Tex. 1981).

[57] *Id.* at 76,693.

tion in 1976, and a civil investigation by the Antitrust Division in 1979, but neither investigation resulted in any antitrust action against firms in the medium industry. (RAB 55 n.1, citing RX 1418–21.) While raising some concerns, this antitrust history is insufficient to persuade us that this acquisition will appreciably reduce competition in the west coast medium industry.

We conclude that complaint counsel have placed undue emphasis on the existence of exchange agreements, Weyerhaeuser's "downtime" decisions, and its past antitrust problems, in evaluating the likely effects of the merger.

In support of the acquisition, Weyerhaeuser makes several arguments suggesting that its purchase of the North Bend mill has affirmatively increased competition. First, Weyerhaeuser notes that since 1971 it has pursued a strategy of producing more medium than it requires for its own internal (or exchange) needs, and selling the remainder on the open market. (Tr. 1690–91 (testimony of John H. Waechter).) In this connection, Weyerhaeuser also points to a 15% increase in capacity and concurrent increases in production at North Bend since it [38] acquired the mill. (RAB 8; Tr. 1697 (testimony of John Waechter).)[58]

While increases in capacity and sales are not necessarily inconsistent with the existence of tacit or explicit collusion, we feel that Weyerhaeuser's actions to expand its presence in the open market should be considered as tending to discount the probability of anticompetitive effects from the North Bend acquisition.[59] Such additional supplies to the open market should have the effect of increasing competition for sales; and because the OBM prices on which exchange agreements are based reflect changes in open market prices (with a lag), the price effects of an increase in the amount available on the open market will eventually exert downward pressure on the prices of exchange transactions. Thus, the effects of the merger (and the consequent increase in capacity) should be felt throughout the market, rather than in open market sales alone.

Second, Menasha's competitive significance is less than its 11 percent market share ordinarily would imply.[60] Menasha sold [39] only 4.2 percent of the North Bend mill production in the open market for medium in 1979. (IDF 261.) Moreover, Menasha's CEO testified that

[58] The hold-separate order specifically provided that Weyerhaeuser could decide to expand the mill during the period covered by the order.

[59] Post-acquisition evidence tending to diminish the probability or impact of anticompetitive effects may be considered in a Section 7 case. *FTC v. Consolidated Foods Corp.*, 380 U.S. 592, 598 (1965). We interpret such behavioral evidence with some caution, of course, recognizing that it is within the discretion of the firm involved and that those policies may therefore be changed in the future.

[60] *See General Dynamics, supra* note 47 (fact that acquired firm's coal reserves were already largely committed diminished its competitive significance in the market); 1984 Guidelines, *supra* note 11, at 6879–14 ("market share and market concentration data may either understate or overstate the likely future competitive significance of [illegible]"

the mill's level of sales to the open market was similar over the previous six years and that it attempted, as a matter of corporate strategy, to match the output of its medium plant to its box plant requirements. (*Id.*)

As indicated, *supra,*[61] we have included captive production and consumption in the relevant market because a collusive price increase may spur vertically-integrated firms to expand output. Because of Menasha's financial constraints, however, it was not a likely candidate for future expansion. The record indicates that Menasha did not have the funds to finance expansion of the plant. (RF 268.) This was due, in large part, to Menasha's status as a privately held firm and recent forced redemptions of shares of its stock. (RF 269.) Prior to this acquisition, Menasha had explored such alternatives as sale of stock to the public, but these options proved infeasible. (RF 272.)

In short, because Menasha's financial circumstances made it doubtful that it would engage in procompetitive capacity expansions, its competitive significance must be discounted.[62]

Our interpretation of the likely effects of Weyerhaeuser's acquisition and expansion of the North Bend mill is reinforced by [40] certain of the testimony from box company managers and box buyers adduced in the course of the administrative hearing. Weyerhaeuser called numerous witnesses from the first group in an attempt to show that, in its words, "complaint counsel are alone in condemning this acquisition." (RAB 2.) Testimony from several representatives of independent (non-vertically integrated) western box shops testified that they supported the acquisition (*id.* at 3–4), as did several representatives from integrated box manufacturers with western box shops but no western medium mills. (*Id.* at 4–6.) The testimony of the independent box shops is substantially tainted by the fact that Weyerhaeuser's post-acquisition agreement with the Association of Independent Corrugated Converters ("AICC") to increase the amount of medium Weyerhaeuser would make available to independent box shops during the period 1980–90 contained a provision that the AICC would notify the Commission that neither it nor its members objected to the North Bend acquisition. (RX 1602.) AICC did send the Commission a letter to that effect. An AICC spokesman testified before the district court in favor of the acquisition and Weyerhaeuser offered the AICC letter in evidence. (RX 1603.) Contracts for the giving of evidence are, of course, highly improper.[63] Even though the contractual agreement

[61] *See,* note 31 *supra* and accompanying text.

[62] *See* 1984 Guidelines, *supra* note 11 at 6879–14 (financial condition of the firm is a factor that may affect competitive influence).

[63] 6A Corbin, *Contracts* Section 1430 (2d ed. 1962); 14 Williston, *Williston on Contracts* Section 1716 (3d ed. 1972); Restatement of Contracts, Second Section 553.

said nothing about testimony at the hearing, we think it best to [41] disregard the independent box shop operators' view of the acquisition.

However, no similar taint attends the testimony of the integrated producers without western medium facilities, who also discounted the probability of anticompetitive effects from the acquisition. We also take note of the testimony of the senior buyer of corrugated containers for Swift & Company, who stated that he did not think the acquisition would have an adverse impact on Swift, or on the box prices paid by it. (Tr. 1159 (testimony of Paul J. Nordstrom).)

In considering this testimony, we do find it significant that complaint counsel did not offer any evidence of opposition to the acquisition, either from the integrated box producers without medium mills in the west, or from customers of the box companies. Although lack of customer complaints is not always a reliable indicator of the competitive effect of an acquisition, the fact that the representatives from groups likely to be harmed by any diminution of competition in the western market in fact have only testified in support of the acquisition suggests to us, in this case, that Weyerhaeuser's move into North Bend is unlikely to promote collusion.

3. Entry

The Commission considers entry conditions to be the most important of the array of market characteristics considered in addition to market concentration figures.[64] In a recent decision, the Commission adopted the following definition of an [42] entry barrier: "additional long-run costs that must be incurred by an entrant relative to the long-run costs faced by incumbent firms."[65] The decision further explains that

> Unless there is a barrier to entry, as defined above, market power cannot be exercised indefinitely. Sooner or later, new firms will enter the market and drive prices back down to competitive levels. From the standpoint of the public, however, it makes a great deal of difference whether this occurs sooner or later. There may be little practical difference between an absolute barrier to entry and conditions of entry that delay the restoration of competitive prices for decades.
>
> Therefore, we will also consider a second type of barrier to entry, which might more accurately be called an impediment to entry. An impediment to entry is any condition that necessarily delays entry into a market for a significant period of time and thus allows market power to be exercised in the interim.[66]

We consider here both the ability of new firms to enter the west coast market and the ability of existing firms to expand their

[64] *Echlin Mfg. Co.*, 3 Trade Reg. Rep. (CCH) ¶ 22,268 at 23,300 (105 F.T.C. 410, June 28, 1985).
[65] *Id.* at 23,301.
[66] *Id.* at 23,302.

output.[67] As to the former, we generally accept the ALJ's findings that no cognizable barriers to entry exist in the form of capital costs, scale economies, environmental restrictions, limited access to mill sites and raw materials, or differentially higher costs for new mills. (IDF 195–201, 205–211.) While there [43] has been no new entry in the west coast region since 1974, two large plants have recently come on-stream in the east: International Paper's Mansfield, Louisiana complex commenced operation in November 1981 (WX 1200jj-B), and MacMillan Bloedel's Pinehill, Alabama facility started up in November 1982 (Tr. 909 (testimony of Edward E. Locke, of MacMillan Bloedel, Inc.)). Thus, new plant construction appears to be a viable competitive strategy. However, further attention must be paid the time required for so-called "greenfield" entry.

The ALJ found that semichemical or recycled mills "can be built within the approximate time frame of two years used [to evaluate new entry] in the [Justice Department Merger] *Guidelines.*" (IDF 204.) Complaint counsel attack this finding, arguing that the ALJ concentrated on the *construction* time involved, and ignored the time periods required to develop plans for a new mill, select a mill site, complete preliminary design work, prepare and submit environmental studies and applications for environmental permits, and the like. (CAB 50–51.) Complaint counsel forecast time periods of "up to five years" "between the formulation of the initial idea for a new medium mill and the commencement of efficient production at new capacity." (*Id.* at 51.)

Our review of the evidence concerning the time needed for greenfield entry convinces us that the ALJ overlooked significant and time-consuming pre-construction steps that must be taken to construct a new mill. The total time necessary for the planning and construction of the new International Paper and MacMillan [44] Bloedel mills mentioned above appears to have been approximately four to four-and-one half years. (CPF 5–14 through 5–20.) Given these facts, we concluded that the time required for greenfield entry constitutes a sufficient "impediment to entry" in this industry that we will not consider as significant the effect of possible greenfield entry as a deterrent to the exercise of market power by incumbent firms.[68]

The second form of entry considered here—capacity expansion by

[67] *See Grand Union, supra* note 11, 102 F.T.C. at 1064–66 & n. 74; *Heublein, Inc.*, 96 F.T.C. 385, 589 (1980); 1984 Guidelines, *supra* note 11, at 6879–15 n. 20 (expansion of fringe firms considered a form of entry).

[68] We do not find that the period constituting a significant impediment to entry here would necessarily be a significant impediment in all cases. The relevant period may be either longer or shorter than this. The impact of potential new entry in restraining the exercise of market power in a given market may be related to other economic characteristics of the industry, in addition to the requisite time for entry. Such characteristics may include the longevity of the plant, the minimum efficient scale of entry relative to total industry capacity, the duration of supply contracts customary in the industry, as well as other factors.

fringe firms currently in the market[69]—is, obviously, not subject to the same delays as the construction of a wholly new facility. Indeed, the record is clear that existing facilities may be upgraded fairly easily, and at relatively low cost. (IDF 150, 218.) Several examples of such upgrading in the west coast market are available: Menasha's 1976–77 expansion of, and Weyerhaeuser's post-acquisition investments in, the North Bend mill, and Willamette's expansion of its Port Hueneme, [45] California mill. (IDF 218.) West coast capacity expansions are also evident in the subpoena responses of Georgia-Pacific Corporation (CX 319–D) and Container Corporation (CX 312–D). In all, nine of the twelve west coast producers reported expansions in capacity during the period 1977–82. (CPF p. 96, Table V–3.)

Complaint counsel do not dispute the possibility of such expansion or the fact that such expansion has occurred. Rather, they argue that the firms in the west coast market will be party to a "collusive arrangement" that will include an agreement not to expand capacity, and that, at any rate, the smaller, fringe firms are "at an economic disadvantage relative to the larger producers with respect to expanding the capacity of their mills." (CAB 52.)

We do not view tacit or express collusion as an easy matter in this market, given the number and size distribution of the firms involved. We do not view this acquisition as significantly affecting the probability that an explicit conspiracy could be formed as to capacity expansion in this market. Moreover, tacit collusion is obviously potentially subject to disruption by fringe firms. This would seem to be especially true of tacit coordination regarding something as complex as capacity expansion. The possibility of "cheating" through modifying existing facilities would in all likelihood prove too tempting to fringe firms.

We think that complaint counsel underestimate the ability of the fringe firms to expand in the event of a collusive price increase. Complaint counsel's assertions as to these firms' [46] disadvantage is based on the smaller width of the machines used by Louisiana-Pacific, Inland, Newark and Specialty Paper. (IDF 218 & n. 24.) First, not all of the smaller firms are constrained in this way.[70] Moreover, there appear to be a number of alterations that can be made to any medium mill, regardless of the width of the machines used. (Tr. 2278–87 (testimony of E.J. Justus) (industry consultant)). For example, elimination of bottlenecks in the production process, addition of horsepower to the pulping and cleaning equipment, improvements to the press

[69] Collusion among the leading firms in a market can be defeated if fringe firms can expand output sufficiently to offset output reductions by the colluding sellers. Although smaller firms in the market ordinarily have relatively more to gain from such behavior, we do not entirely discount the possibility of one or more moderately-sized firms attempting to gain market share by modifying existing facilities.

[70] For example, Boise Cascade has less than eight percent of the market, *see* p. 28, *supra*, but its machines do not have the size disadvantage asserted by complaint counsel.

section, and installation of an extended nip press appear to be alterations available to mills across the board. (*Id.*) In fact, three of the firms characterized by complaint counsel as unlikely to expand because of machine width did, in fact, expand during 1977–82. (*Compare* IDF 218 & n.24 *with* CPF p. 96, Table V–3.)

The importance of fringe capacity expansion in this industry is underscored by the fact that the targets of any collusive behavior—independent box shops and those integrated box firms with western box shops but no western medium mills—would have every incentive to seek lower cost sources of supply in the event of a collusive price increase, and could easily present smaller medium firms with a good reason for expanding their capacity and output. We therefore consider the possibility of expanded output by fringe firms in the market to be a significant factor limiting the possibility of anticompetitive behavior. [47]

4. Eastern Firms as "Near Competitors"

Finally, we consider the fact that eastern producers clearly would enter on an significant scale if west coast prices increased substantially. Testimony adduced at the hearing suggests a large eastern response would occur if the east-west price differential widened to $45–$50. (Tr. 988 IC (testimony of Edward Locke); 2343, 2346–47 IC (testimony of Alfred Perry of Continental Forest); and 2494–95 IC (testimony of Michael Brown of International Paper).) Given the state of the record, specifically the confusing evidence as to the price differential at the time the record closed, we are unable to say by what percentage the western price would have to increase to trigger this response, although it appears to be somewhere in the range of 6 to 12 percent.

Even though we have defined the geographic market to exclude eastern producers, this does not require us to blind ourselves to the reality that, at some price, eastern supply would be forthcoming. While the definition of relevant markets requires the drawing of "bright lines" for the inclusion and exclusion of goods and firms, our analysis should not ignore competitive influences at the margin, though outside the "bright lines." Where, as here, there is a significant competitive presence reasonably close to the bright line, we will give some consideration to that presence, rather than strictly follow an [48] "all or nothing" approach.[71] This presence could exert, at the limit, a restraining influence on western prices. In any event, it would

[71] 1984 Guidelines, *supra* note 11, at 6879–16 (discussing consideration of "next-best substitutes"); Alpert & Kitt, *Is Structure All?*, 53 Antitrust L.J. 255, 264–66 (1984) (suggesting consideration of "near competition" from firms or products outside the defined market).

limit the amount of harm that could be done through any exercise of market power in the west.

III. CONCLUSION

In light of a number of characteristics of the western medium market—the presence of eleven incumbent firms, the potential for fringe firms to expand their productive capacity relatively easily, the output-expanding policies followed by Weyerhaeuser with respect to the North Bend facility, the lack of opposition to the acquisition from firms likely to be affected by any anticompetitive behavior, and the presence of "near competition" from the eastern mills—we cannot find that the effect of the challenged acquisition "may be substantially to lessen competition, or to tend to create a monopoly." The Commission therefore dismisses the complaint in this matter in all respects.

FINAL ORDER

This matter has been heard by the Commission upon the appeal of complaint counsel from the initial decision and upon briefs and oral argument in support of and in opposition to the appeal. For the reasons stated in the accompanying Opinion, the Commission has determined to sustain the initial decision. Complaint counsel's appeal is denied. Accordingly,

It is ordered, That the complaint is dismissed.

Commissioners Bailey and Calvani did not participate.