

Complaint

120 F.T.C.

IN THE MATTER OF

R.R. DONNELLEY & SONS CO., ET AL.

FINAL ORDER, OPINION, ETC., IN REGARD TO ALLEGED VIOLATION OF
SEC. 7 OF THE CLAYTON ACT AND SEC. 5 OF THE
FEDERAL TRADE COMMISSION ACT

Docket 9243. Complaint, Oct. 11, 1990--Final Order, July 21, 1995

This final order dismisses charges against R.R. Donnelley & Sons Co., the largest supplier of commercial printing services in the world, in connection with Donnelley's 1990 acquisition of Meredith/Burda Company L.P., on the grounds that the product market for analyzing the effects of the acquisition is not as narrow as alleged and that anticompetitive effects are unlikely. This action reverses the initial decision of the Commission's Administrative Law Judge and nullifies his order that Donnelley divest various printing plants.

Appearances

For the Commission: *Robert W. Doyle.*

For the respondents: *Elroy H. Wolff, Austin & Austin,*
Washington, D.C. and *H. Blair White and Thomas F. Ryan, Sidley & Austin,* Chicago, IL.

COMPLAINT

The Federal Trade Commission, having reason to believe that the respondent, R. R. Donnelley & Sons Co., ("Donnelley") a corporation subject to the jurisdiction of the Commission entered into agreements with respondents Meredith Corporation ("Meredith") and Pan Associates, Limited Partnership ("Pan"), that violated Section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. 45, and that pursuant to those agreements, Donnelley has acquired certain business interests of the respondents Meredith and Pan in the Meredith/Burda Company Limited Partnership, and that such acquisition constitutes 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; and it appearing that a proceeding in respect thereof would be in the public interest, the Commission 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. THE PARTIES

A. *R. R. Donnelley & Sons Co.*

1. Respondent Donnelley is a corporation organized and doing business under the laws of the state of Delaware, with its principal place of business at 2223 Martin Luther King Drive, Chicago, Illinois.

2. In fiscal year 1988 Donnelley had sales of approximately \$2.878 billion and assets of \$2.249 billion.

3. Donnelley is primarily engaged in the provision of commercial printing services throughout the United States.

B. *Meredith Corporation*

4. Respondent Meredith is a corporation organized and doing business under the laws of the state of Iowa, with its principal place of business at 1716 Locust Street, Des Moines, Iowa.

5. Meredith owned 50% of the Meredith/Burda Co., L.P. ("Meredith/Burda") and the remaining 50% was owned by Pan Associates, L.P.

6. In fiscal year 1989, Meredith/Burda had net sales of approximately \$456 million.

7. Prior to and at the time of the acquisition, Meredith/Burda was primarily engaged in the provision of commercial printing services throughout the United States.

C. *Pan Associates, L.P.*

8. Pan is a limited partnership and a holding company for the Burda family, with its principal place of business at 1270 Avenue of the Americas, #1918, New York, New York.

II. JURISDICTION

9. At all times relevant herein, respondent Donnelley, has been, and is now, engaged in commerce as "commerce" is defined in

Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and is a corporation whose business is in or affects commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. 44.

10. At all times relevant herein, respondent Meredith, has been, and is now, engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and is a corporation whose business is in or affects commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. 44.

11. At all times relevant herein, respondent Pan, has been, and is now, engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and is a partnership whose business is in or affects commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. 44.

III. THE ACQUISITION

12. On December 21, 1989, Donnelley, Meredith and Pan entered into a Purchase and Sale Agreement whereby Donnelley would acquire all of Meredith's and Pan's interests in Meredith/Burda in two transactions totalling \$570 million. The acquisition was consummated on or about September 4, 1990.

IV. NATURE OF TRADE AND COMMERCE

13. A relevant line of commerce or product market within which to analyze the effects of the acquisition is the supply of high volume publication gravure printing. Such printing is typically used for long runs of magazines, newspaper inserts and catalogs.

14. A relevant section of the country or geographic market within which to analyze the effects of the acquisition is the entire continental United States.

15. A second relevant section of the country or geographic market within which to analyze the effects of the acquisition is the region comprising twelve western states west of the Rockies: Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

V. MARKET STRUCTURE

16. The acquisition substantially increased concentration in the already highly concentrated relevant markets, whether measured by the Herfindahl-Hirschmann Index or by four-firm and eight-firm concentration ratios.

VI. BARRIERS TO ENTRY

17. The barriers to entry into the provision and sale of the relevant product are substantial. Even if new entry were to occur, substantial harm to competition could occur until entry could be accomplished.

VII. ACTUAL COMPETITION

18. Prior to and at the time of the acquisition, Donnelley and Meredith/Burda were actual competitors in the provision and sale of the relevant product in the relevant geographic markets.

VIII. EFFECTS OF THE ACQUISITION

19. The effects of the aforesaid acquisition have been or may be substantially to lessen competition in the relevant markets 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, in the following ways, among others:

- (a) It eliminated actual competition between Donnelley and Meredith/Burda and between Meredith/Burda and others in the relevant markets;
- (b) It significantly increased the already high levels of concentration in the relevant markets;
- (c) It created a firm whose share of the relevant markets is so high that it has achieved the position and market power of a dominant firm;
- (d) It eliminated Meredith/Burda as a substantial independent competitive force in the relevant markets; and

- (e) It increased the likelihood of successful anticompetitive conduct, non-rivalrous behavior, and actual or tacit collusion among the firms in the relevant markets.

IX. VIOLATIONS CHARGED

20. The acquisition of Meredith/Burda by Donnelley constitutes 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, 15 U.S.C. 45, as amended.

21. The agreement described in paragraph twelve above violates Section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. 45.

INITIAL DECISION

BY LEWIS F. PARKER, ADMINISTRATIVE LAW JUDGE
DECEMBER 30, 1993

I. PROCEDURAL HISTORY

Pursuant to 15 U.S.C. 53(b), the Commission moved for a preliminary injunction from the United States District for the District of Columbia to prevent R.R. Donnelley & Sons Co.'s ("Donnelley") acquisition of the Meredith/Burda Company Limited Partnership ("Meredith/Burda"). Following a hearing, the court denied the Commission's motion on the merits. *See FTC v. R.R. Donnelley & Sons Company*, 1990-2 Trade Cas. (CCH) ¶ 69,239 (D.D.C. 1990). Thereafter, on October 11, 1990, the Commission issued its complaint in this proceeding charging that Donnelley had entered into agreements with Meredith Corporation ("Meredith") and Pan Associates Limited Partnership ("Pan") that violated Section 5 of the Federal Trade Commission Act, ("FTC Act"), as amended, 15 U.S.C. 45, and that pursuant to these agreements Donnelley had acquired certain business interests of Meredith and Pan in Meredith/Burda, and that such acquisition violated Section 7 of the Clayton Act, as amended, 15 U.S.C. 18, as well as Section 5 of the FTC Act.

The complaint alleges that Donnelley and Meredith/Burda are primarily engaged in the provision of commercial printing services throughout the United States, and that on or about September 4, 1990,

Donnelley acquired all of Meredith's and Pan's interests in Meredith/Burda.

The complaint claims that the challenged acquisition substantially increased concentration in an already highly concentrated relevant product market -- the supply of high volume publication gravure printing which is typically used for long runs of magazines, newspaper inserts and catalogs. The geographic markets are alleged to be the entire continental United States and the twelve states west of the Rockies.

The complaint concludes that the acquisition has had or will have the following effects:

1. Elimination of actual competition between Donnelley and Meredith/Burda and Meredith/Burda and others in the relevant markets.
2. A significant increase in already high levels of concentration in the relevant markets.
3. The creation of a dominant firm.
4. The elimination of Meredith/Burda as a substantial independent competitor in the relevant markets.
5. An increase in the likelihood of successful anticompetitive conduct, non-rivalrous behavior, and actual or tacit collusion among the firms in the relevant markets.

By stipulation, Meredith was dismissed as a respondent (Stipulation of April 19, 1991).

After extensive pretrial discovery, hearings were held in Washington, D.C. and Chicago, Illinois from January 25, 1993, to June 17, 1993.

During the trial, three experts testified for complaint counsel. They were:

Roy Hodgson, who has had 47 years of experience in the printing industry and who is currently a printing industry consultant (Tr. 114-35);¹ Dr. John Hilke, a Commission employee who is qualified as an

¹ Abbreviations used in this decision are:

Cplt: Complaint	Tr.: Transcript of the proceeding
Ans: Answer	F: Finding of fact
CPF: Complaint Counsel's proposed findings	CDX: Commission Demonstrative Exhibit
RPF: Respondent's proposed findings	RX: Respondent's Exhibit
CX: Commission Exhibit	

expert in industrial organization economics (Tr. 2985-86); and, Professor G.S. Maddala, an econometrician who is a scholar in residence at Ohio State University and Director of the Center For Econometrics at the University of Florida (Tr. 5723).

Respondents called two experts to testify:

Mr. Eugene Hoskins, a retired supervisor in Donnelley's printing department (Tr. 4981); and Dr. Jerry Hausman, a professor of economics at the Massachusetts Institute of Technology who is qualified as an expert in econometrics and applied microeconomics (Tr. 5180-82).

The parties filed their proposed findings of fact on September 17, 1993. Answers were filed on October 29, 1993. After ruling on several outstanding motions, I closed the record on October 8, 1993.

This decision is based on the transcripts of testimony, the exhibits which I received in evidence, and the proposed findings of fact and answers thereto filed by the parties. I have adopted several proposed findings verbatim. Others have been adopted in substance. All other findings are rejected either because they are not supported by the facts or because they are irrelevant.

Many documents and much testimony were received in camera. While I have honored the status of such information in many cases, I have, particularly with respect to Donnelley documents (Tr. 35-36), revealed it pursuant to Section 3.45(a) of the Rules of Practice.

II. FINDINGS OF FACT

A. Donnelley

1. Donnelley, a Delaware corporation whose headquarters are in Chicago, is the largest supplier of commercial printing services in the world (CX-4-B; CX-1157-Z-10). Donnelley provides both gravure and offset printing services (CX-4-D; CX-7-B); its major products include catalogs, newspaper inserts, magazines, books, directories, computer documentation and financial printing (CX-4-D; CX-1157-Z-10; CX-1455-D).

2. Prior to the Meredith/Burda acquisition, Donnelley had seven plants with gravure equipment in: Lancaster, PA (the Lancaster East plant); Gallatin, TN; Chicago, IL; Mattoon, IL; Spartanburg, SC; Warsaw, IN; and Reno, NV (CX-7-I). On January 28, 1993, Donnelley announced its intention to close the Chicago facility

whose primary customer was Sears (CX-1179-D; CX-1180-B; Tr. 4591). These plants contain a total of 57 gravure presses.

3. [] (CX-102-W-X) [] (CX-128-Z-58).

4. Donnelley's Graphic Services Division is primarily responsible for the printing and distribution of publications and contains the Catalog Group (which prints catalogs and newspaper inserts), the Magazine Group, the Telecommunications Group (which prints telephone and other directories) and the Book Group (CX-1245-B; CX-1455-E).

5. The Catalog Group prints its publications at the Chicago, Gallatin, Spartanburg, Reno, Warsaw, Casa Grande, Lynchburg, and Newton facilities (CX-1245-D) as well as at Mattoon, Lancaster, and Old Saybrook (CX-492-C). The Magazine Group prints its publications at the Danville, Glasgow, Los Angeles, Mattoon, Old Saybrook, Daytona, and Des Moines facilities (CX-1245-B-C) as well as at Lancaster (CX-492-C).

6. Donnelley's fiscal 1990, 1991 and 1992 net sales were \$3.498, \$3.915 and \$4.193 billion, respectively. Assets as of year-end for 1990, 1991 and 1992 were \$3.147, \$3.207 and \$3.410 billion, respectively (CX-1455-Z-22). Gross profits were \$689, \$727, and \$818 million, respectively (CX-1455-Z-22). Total revenues for gravure printing in 1989 and 1992 were substantial (CX-7-E; Tr. 5927-28).

B. Meredith/Burda

7. Immediately prior to its acquisition by Donnelley, Meredith/Burda was the third largest gravure printer in the United States (*see* CX-501-B), offering "state-of-the art equipment" including "the most versatile and efficient rotogravure and web offset presses available" (CX-5-0).

8. At the time of the acquisition, Meredith/Burda had four publication printing plants located in Casa Grande, AZ; Des Moines, IA; Newton, NC; and Lynchburg, VA (CX-5-0, V; CX-8-I-; CX-492-B). All of these printing plants have gravure equipment (CX-8-I-M; CX-492-B). Only the Des Moines plant is equipped with heatset web offset equipment (CX-492-B). There are a total of 20 gravure presses in the 4 former Meredith/Burda plants (CX-8-0; CX-501-N).

9. In fiscal year 1989, the year prior to its acquisition by Donnelley, Meredith/Burda reported sales of \$456.7 million (CX-162-D; CX-492-A). [] (CX-162-E) [] (CX-162-D).

C. The Acquisition

10. On December 21, 1989, Donnelley's Board of Directors approved the acquisition of Meredith/Burda, and Donnelley, Meredith Corporation and Pan Associates entered into a purchase and sale agreement for Donnelley to acquire all of Meredith's and Pan's interest in Meredith/Burda (CX-2-N-Z-64; CX-3). The acquisition was consummated on September 4, 1990 (CX-3-B; CX-4-Z-8).

11. The final purchase price was \$486.6 million, plus the assumption of \$49.9 million in debt, for a total of \$536.5 million (CX-4-Z-8; CX-9-E). The price included over \$200 million of goodwill, reflecting the excess of the purchase price over the value of Meredith/Burda's net tangible assets (CX-4-Z-8).

D. Interstate Commerce

12. Respondents Donnelley and Pan have been, and are now, engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. 12, and are corporations whose business is in or affects commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, 15 U.S.C. 44 (Cplt ¶¶ 9, 11; Ans ¶¶ 9, 11).

E. The Publication Printing Industry

1. Introduction

13. Publication printing consists of the printing of magazines, catalogs, and advertising inserts. Advertising inserts are the supplements that one finds in newspapers or the mail and which firms such as retail chains use to advertise their goods (Tr. 141). Two printing processes are primarily used to print publications: heatset web offset ("offset") and rotogravure ("gravure"). Two minor processes which are also used are letterpress and flexography (Tr. 143; CX-1142-N).

2. The Gravure Process

14. In the gravure process, ink is transferred to paper from an engraving that is etched into the surface of a copper-plated cylinder (Tr. 149; CDX-1; CX-1142-0, Z-39).

15. The copper cylinders are mechanically etched by a device called the "helioklischograph" which engraves many tiny recessed cells--some 4,000 per second--on the surface of the cylinder (Tr. 189-90; CX-120-Z-84-A; CX-301-Z-7).

16. The engraved cylinder rotates in a bath of ink; excess ink is wiped off the surface by a flexible steel blade called a "doctor blade." The ink remaining in the recessed cells forms the printed image by direct transfer to the paper web as it rolls across the printing cylinder (CX-1142-0).

17. Gravure presses use paper that is either web-fed from a continuous roll or "web" of paper or sheet-fed by individual sheets of paper. Web-fed gravure presses are referred to as "rotogravure" presses (Tr. 156-58; CX-977-W-X). Sheet-fed gravure is not a viable alternative to gravure printing where high volume work is required (Tr. 159; CX-977-X).

18. A typical gravure press has 8 to 10 printing units (Tr. 164-65). Each unit prints one of four basic colors--black, red (magenta), yellow or blue (cyan)--and uses a cylinder that has been engraved with the images that are to be printed (CX-977-Z-1-3; CDX-4). Four units print on the front of the paper; another four units print on the back of the paper (CX-977-Z-1; Tr. 164, 192). As the paper is fed through each successive unit, another color is printed on top of the ink of the preceding unit. Dryers situated between each unit dry the ink before the paper goes into the next unit. A folder at the end of the press cuts and folds the paper into signatures (F 37) (CX-977-Z-1, Z-8; Tr. 206-07, 09; *see* CDX-4).

3. The Offset (Lithography) Process

19. Offset, also known as lithography, is a photochemical process based on the principle that oil and water do not mix (CX-122-Z-6; CX-290-B; CX-1142-P, Z-36).

20. Rather than using an engraved cylinder, the offset process uses a flat aluminum printing plate folded around a cylinder; the inked image is not conveyed directly to the paper, but rather it is

"offset," first from the plate to a rubber blanket, and then from the blanket to the paper (CX-1142-P; Tr. 148, 152, 2049; *see generally* CDX-2).

21. In the offset process, a thin metal plate is treated with a photosensitive coating and exposed to ultraviolet light with film negatives to create an image on the plate. The portion of the plate with a printing image is rendered ink-receptive and water-repellent; the non-printing area of the plate is treated to be water-receptive and ink-repellent (CX-977-Z-22; CX-1142-P, Z-36; Tr. 154). The exposed plate is mounted on a cylinder in the press. As the plate cylinder rotates on the press, it comes into contact with rollers wet with water or dampening solution, and another set of rollers coated with ink (CX-977-Z-25-28; CX-1142-P).

22. The dampening solution wets the non-printing areas of the plate and prevents ink from wetting those areas (CX-977-Z-23-25). The ink then wets the ink-receptive printing image areas (CX-977-Z-25-28; Tr. 153-54).

23. The plate cylinder transfers the image from the plate to a rubber blanket wrapped around a cylinder known as a blanket cylinder. The blanket cylinder then transfers the image to paper (CX-977-Z-15, Z-28-29; CX-1142-P; Tr. 148, 152-53; *see generally* CDX-2).

24. Commercial offset presses generally print on both sides of a continuous web of paper at the same time. These presses are referred to as perfecting "web offset" presses (CX-1142-P, Z-44; Tr. 152-53).

25. A typical web offset press has four units, each printing one of the four basic colors of publication printing: black, red, yellow, and blue (CX-977-H; Tr. 142). As the web passes through each successive unit, the different ink colors are applied (CX-977-Z-16; Tr. 208; CDX-5).

26. In heatset printing, after running through all the units, the web of paper enters a single drying unit at the end of the press (CX-977-Z-16, Z-29-30; Tr. 208; CDX-5). Because the dryer is at the end of all the printing units, the successively applied ink colors are applied wet on top of each other (Tr. 209-11; CX-977-Z-16).

27. Web offset presses may be heatset or non-heatset ("coldset") (CX-977-Z-15; Tr. 154-57). Heatset printing refers to the use of inks blown dry by a high temperature dryer; the process is typically used when printing on coated papers (CX-977-Z-15; *see also* Tr. 154-55, 2049). Coldset web offset presses use absorbent, uncoated papers;

ink is dried by absorption of the ink into the paper surface and a dryer is not needed (CX-977-Z-15; Tr. 154, 2049-50).

28. Coldset competes primarily with flexography (Tr. 155, 4873; accord, CX-1169-E; CX-1306-E) and is not a viable alternative to gravure printing where high volume publication printing is required (Tr. 147, 155-56; *see* Tr. 6423).

4. The Letterpress and Flexography Processes

29. Letterpress printing uses cast metal type or plates on which the image to be reproduced is raised above non-printing areas (CX-1142-N; Tr. 144). Flexography is a variant of letterpress and uses plates made from vulcanized rubber or plastic rather than metal (CX-977-K; CX-1142-0). Neither process is a practical alternative to gravure or offset for high volume publication printing (Tr. 143-47, 6422-23).

5. Printing Steps

30. The printing process requires the purchase of paper, ink and services including artwork, separation of artwork into colors (preliminary), the transfer of film separations onto a plate (pre-press), proofing, presswork, binding, and distribution.

31. Paper can be furnished by the printer or his customer (Tr. 173-74; CX-744-E) and could cost from 30 to 55% of the total cost of a printing job (Tr. 177, 1491, 6166-72; CX-1428; CX-744-E; CX 1427-A-B). In order of descending quality, the grades of paper used in publication printing are: coated stock, supercalendar grade A ("SCA"), supercalendar grade B ("SCB"), supercalendar grade C ("SCC"), machine finished, and newsprint (Tr. 175-76; *see also* CX-1346-C-E; CX-1347-B). In recent years, print customers have increasingly purchased paper directly from the mills for delivery to their printers (Tr. 171, 173-74).

32. Gravure and offset inks, which are normally supplied by the printer, differ and are not interchangeable; gravure ink contains solvents and is very fluid. Offset ink is viscous and paste-like (Tr. 183-85, 3655).

33. Artwork, which is provided by the customer, is the design of the material to be printed (Tr. 185-86, 862-63, 1152-53, 3080). Preliminary involves the separation of artwork or photographs into

the four basic colors. Color separation is the same for either gravure or offset and can be provided by the customer, the printer, or an outside source (Tr. 186-88, 3506). Pre-press for gravure, usually provided by the printer, involves transferring the image to be printed from film to a copper surfaced cylinder by the helioklischograph (F 15) (Tr. 189-94, 957-58, 2614, 4000). In offset, film separations are transferred photographically to a plate which is then baked in an oven (Tr. 189, 2614, 4000).

34. Proofs are made to ensure that the final printed image is accurate (Tr. 170, 193-95). Offset proofs are made from "chromalins" using pigments to simulate ink, before the plates are made. Gravure proofs are made after the cylinders are engraved (Tr. 194-95). A special "proof press" is usually used to print the gravure proof (a "wet proof"). Wet proofing is unusual in offset printing (Tr. 194-97, 1163, 3725). A much less costly alternative to the proof press is the drum proofer (Tr. 229, 2539-42). If errors are found in the wet proof, corrections are made directly on the cylinder by etching (Tr. 196-97).

35. Gravure and offset presswork are substantially different (Tr. 204). The wet ink is dried in both processes, but dryers are located between each printing unit in gravure; in offset the four wet inks are applied to the paper on top of each other and are dried at the end of the process (Tr. 209-11; CDX-5). Offset presses require "chill rolls" at the end of the dryer; gravure presses do not (*see* Tr. 210-11).

36. Offset folders have a fixed cut-off that corresponds to the circumference of the roller, whereas modern gravure folders are usually variable (Tr. 209, 211, 213-18).

37. Binding and distribution occur after the printed product (called "signatures" in the trade) comes off the press. Signatures can be bound by using staples (saddle stitching) or glue (perfect binding) (Tr. 200-02, 4592). After a print job is completed, it is distributed directly to the customer or to a mailing center (Tr. 202-03).

F. The Relevant Product Market

1. Introduction

38. The relevant product market proposed by complaint counsel and their expert Dr. Hilke is high volume publication gravure printing, which is approximated by gravure jobs of at least 5 million

copies, of at least 16 pages, and with less than 4 four-color versions (or the equivalent in single color versions). The "core" of this market is claimed to be approximated by jobs of at least 10 million copies, more than 32 pages, and less than 4 four-color versions (or the equivalent in single-color versions). Versioning of a publication is a relevant consideration because its cost is greater in gravure than in offset (F 224).

39. Analysis of complaint counsel's proposed markets involves consideration of the differences between and similarities of gravure and offset, printing industry perceptions about the two processes, how such differences affect customer choice, and the ability of gravure printers to price discriminate.

2. High Volume Publication Printing

a. Type of Publications

40. Most high volume publication printing involves three kinds of publications--catalogs, magazines and advertising inserts (Tr. 140-42, 166-69; CX-4-D). Donnelley derived over half its 1990 revenue from printing four-color multi-page catalogs, newspaper inserts and magazines (CX-4-D-E); Meredith/Burda's entire printing operation involved these publications (CX-107-Z-123).

41. For various reasons such as low volume, lack of need for high quality reproduction, or a high number of versions (different forms of a basic publication), the following publications can be excluded from discussion of high volume publication printing: telephone directories, newspapers, books (Tr. 166-68), comics (Tr. 146, 168, 2721, 4773), and coupon books which are inserted into magazines or newspapers (Tr. 168, 2482-83, 2450, 2490-92, 3129, 3460).

b. Procurement of Printing Services

42. Customers can obtain high volume gravure or offset printing services either under contracts or short-term informal agreements on the "spot" market. Long term contracts are more common for high volume printing jobs (Tr. 570, 2029-30, 3043, 4597, 5476; CX-63-P; CX-327).

43. Customers provide bid packages to prospective printers. Some seek bids from many printers; others limit their bids to selected printers (Tr. 791, 798, 800-01; CX-1397; CX-1411; RX-465-C).

44. Printers, including Donnelley and Meredith/Burda, use computer cost models to calculate bids for the gravure and offset processes (Tr. 5130; CX-136-0, P; CX-901-Z-62-63, Z-65).

45. Because the estimation of job costs is computerized, the cost of calculating bids is relatively low. Printers often make many bids before making a sale (Tr. 2683-84, 5994).

c. Printers

1) Offset Printers

46. Nine offset printers with no gravure capacity testified in this proceeding. Most of their print jobs did not involve high volume publication printing:

a) Riverside County Publishing Co.

47. Riverside, a California printer, has printed only 3 jobs with more than 5 million copies; all had at least 10 versions. The largest job had 5.9 million copies. The largest job with fewer than 4 versions had 3.4 million copies (Tr. 2186-87; CX-1181).

b) St. Ives

48. The catalogs, magazines and inserts printed by this company, which is located in Hollywood, Florida, are usually versioned. The average run length was 112,000 copies. The longest run ever printed by St. Ives was approximately 2,000,000 copies (Tr. 2594-95, 2600-03).

c) Printco

49. The average run length and page count of Printco's inserts, which are printed in two offset plants in Michigan, are 1.5 to 2 million copies with 12 pages (Tr. 2672-73).

d) Judd's, Inc.

50. The average run length produced by this Pikesville, Maryland company is 200,000 copies (Tr. 2778).

e) Holladay-Tyler

51. The average run length for the catalogs and magazines printed by this Glendale, Maryland company is 500,000 copies (Tr. 2779).

52. []. This magazine is no longer published (CX-1167-E-G; CX-1441; CX-1446-B; Tr. 2790-92, 6115-16).

f) Webworks

53. This Atlanta, Georgia company prints inserts ranging from 100,000 to 25 million run lengths and 8 to 16 pages (Tr. 2829, 2838-39). Webworks concentrates on jobs with page counts of 16 or less (Tr. 2830).

g) Graphic Arts Center

54. This Portland, Oregon company's specialty is high quality commercial catalogs and brochures. The average run length of its job is less than one million with an average page count of 32 or below (Tr. 2923, 2936). Graphic printed the Victoria's Secret catalog until its run lengths became so large in 1990 and took up so much press time that Mr. Williamson, its vice president of manufacturing, decided not to continue printing it and recommended that Victoria's Secret move to gravure (Tr. 2925).

h) Alden Press

55. This company's print jobs are typically 2 to 3 million in run length, 48 pages long and versioned (Tr. 4657). [] (CX-1167-E). [] (CX-1167-E). [] (CX-1167-C, E; Tr. 4996-97).

i) Sullivan Graphics

56. This company primarily prints inserts and tabloid-size magazines. [] (CX-1167-C, E).

2) Gravure Printers

57. Complaint counsel presented four gravure printers as witnesses: Ringier America, Quad Graphics, Brown Printing, and Quebecor. [] (*see* CX-1167-E).

d. Print Buyers

58. Several print buyers that published catalogs, newspaper inserts and magazines testified in this proceeding.

1) Catalog Customers

a) J. C. Penney

59. Penney currently produces approximately 80 or more catalogs each year which range from 12 to 16 pages to large catalogs of 1,400 to 1,500 pages (Tr. 557-58).

60. Penney's general catalogs are issued once a year in the spring, summer, fall and winter; a Christmas book is also produced once each year (Tr. 558-59).

61. Penney's general catalogs have approximately 1,500 pages and the Christmas book has 550 pages. Twelve to thirteen million copies are produced for each general catalog (Tr. 557-59, 561).

62. Penney's general catalogs are printed at Donnelley's Warsaw plant and are printed gravure except for the covers which are printed offset. The general catalogs are not versioned (Tr. 559-60, 565, 567).

63. Penney's tabloids are printed at Donnelley's Spartanburg plant using the gravure process. Approximately 18 tabloids are printed annually, with a page count of 70 to 160 each and a run length of 11 to 12 million copies each. They are not versioned (Tr. 557-62, 564, 567).

64. Penney's specialty catalogs number 20 to 25 issues annually. All are printed gravure, except one issue (Tr. 563, 568). They are not versioned (Tr. 564).

65. The Penney catalog division's market support program is a highly changeable program and is contracted out as spot work. Each market support catalog ranges from 200,000 to 1.3 million copies and contains 16 to 48 pages. The market support issues are printed either gravure or offset, depending on the size of the book. Donnelley

prints the gravure half and several offset printers print the offset half. There are no versions (Tr. 564, 570-72). Donnelley prints the larger and longer run lengths of these catalogs, such as the run over 650,000 copies (Tr. 572).

66. The Penney 1992 print program for its catalog division cost approximately \$247 million. Out of this total, paper accounted for approximately \$95 million (Tr. 573, 609). Out of the total program of \$247 million, about \$20 million was for offset work (Tr. 573).

b) Sterling, Inc.

67. Sterling produces Spring and Christmas catalogs for its Sterling, Shaw, Guild and J.B. Robinson divisions (Tr. 931-33).

68. The Sterling division spring catalog has a page count of 20 and a run length of 12 million copies. The Shaw division spring catalog contains 16 pages and 6.8 million copies are printed; both catalogs are printed gravure (Tr. 933).

69. Sterling's Guild division spring catalog has a page count of 28 and 2.5 million copies are printed. The J.B. Robinson division spring catalog contains a page count of 16 and a run length of 900,000 copies. Both of these catalogs are printed offset (Tr. 933-34).

c) Lands End

70. Lands End publishes 13 major catalogs, 5 prospector catalogs, 4 specialty catalogs, 6 domestic catalogs, 3 shirt and tie catalogs, and several sale flyers (Tr. 1194).

71. Lands End's major catalog is produced 13 times a year. Twelve have a page count of 100 to 260 and a copy count of 5 to 11 million. The remaining catalog may have fewer pages and 1 to 2.5 million copies are printed. The body of the catalog is printed gravure and the cover, sale insert, order form, response cards, and description card are printed using offset. There are rarely any versions in the gravure body of the main catalog (Tr. 1194-97, 1199).

72. Lands End's prospector catalogs are printed using the gravure process. Each has a page count ranging from 52 to 64 and runs from 4.5 to 11 million (Tr. 1242).

73. Lands End's children's catalogs are printed offset. Each catalog has a page count ranging from 52 to 64 and runs from 1.8 to 2.8 million copies (Tr. 1259-60).

74. Lands End's domestic specialty catalogs are printed offset. Each has a page count ranging from 52 to 80 and runs from 1.5 to 2.5 million copies (Tr. 1261).

75. Lands End's shirt and tie catalogs are now printed offset because they were changed to a smaller trim size. Each has a page count ranging from 36 to 48 and from 1.5 to 1.8 million copies (Tr. 1268-69). When these catalogs were printed in an 11 3/8 inch square format, they could not be economically printed offset, despite the run length of less than two million copies (Tr. 1268-70).

76. Lands End's sale flyers are printed gravure. Each has from 3 to 3.5 million copies and the page count varies, including counts of 24, 48, and 64 pages (Tr. 1273).

d) Lillian Vernon

77. Lillian Vernon produces a core catalog, a sales catalog, a Lilli's Kids catalog, and a Memories catalog.

78. Lillian Vernon's core catalogs are printed nine times a year using the gravure process. Each issue has a page count ranging from 96 to 128 and runs from 10 to 15 million copies. There are three versions (Tr. 1326-28).

79. Lillian Vernon's sales catalogs are printed five times a year using the gravure process. Each issue has a page count of 96 and runs from 5 to 7.5 million copies. There are less than three versions per issue (Tr. 1330-31).

80. Lillian Vernon's Lilli's Kids catalog is printed three times a year by the gravure process. Each issue has a page count ranging from 64 to 72 and runs from 4 to 7.5 million copies. There are two versions (Tr. 1331-32).

81. Lillian Vernon's Memories catalog is printed gravure. It has a page count of 48 and runs from 3 to 4 million copies (Tr. 1332-33).

e) Austads

82. Austads' catalog is printed 13 times a year. Each issue has a page count ranging from 48 to 76 and runs from 800,000 to 2.5 million copies. Austads' recently changed the size of three of its catalogs to a "Slim Jim" sale format. The "Slim Jim" catalogs are printed offset, and the rest of the catalogs are printed gravure (Tr. 1417-21, 1424-25).

f) Sears

83. Sears produced three major media catalogs, a seasonal catalog, a monthly catalog and a specialty catalog (Tr. 1763). The three major media catalogs were printed gravure. Each issue had a page count of 1,500 and runs from 12 million to 13 million copies (Tr. 1763-65). The seasonal catalog was printed four times a year using the gravure process. Each issue had a page count ranging from 200 to 300 and a run length of 6 million (Tr. 1765). The monthly catalog was printed 13 times a year using the gravure process. Each issue had a page count ranging from 72 to 144 and a run length ranging from 6 to 10 million. There were two to five versions (Tr. 1763, 1766-67). The specialty catalog was printed 34 times a year using the gravure process. Each issue had a page count ranging from 48 to 200 and a run length ranging from 1 to 9 million (Tr. 1768). The specialty catalogs were bid out annually and gravure won all of the most recent year's bids (Tr. 1769-70).

g) Current

84. Current's catalog is printed 12 times a year using the gravure process (Tr. 1908-09). Each catalog has a page count of 48 and a run length ranging from 2 to 14 million (Tr. 1911-12).

h) Victoria's Secret

85. [] (Tr. 2014-15, 2012-13, 2019-26; CX-1446-B-D).

i) Bedford Fair

86. [] (Tr. 2138).

87. [] (Tr. 2138-40).

88. [] (Tr. 2138, 2144-45).

89. [] (Tr. 2138, 2147-48).

90. [] (Tr. 2138, 2148).

j) Rivertown Trading

91. Rivertown Trading Company produces two catalogs, titled "Wireless" and "Signals." The Wireless catalog has a print run of 10

to 30 million copies, has a page count of 40 to 48, and is printed offset (Tr. 3544-45, 3550). The Signals catalog has a run length of 7.5 to 20 million and is also printed offset (Tr. 3544-46). Each of the Wireless and Signals catalogs has up to 10 to 12 versions (Tr. 3350-51, 3569-70, 3573). Both catalogs use a special 50-pound type of paper that is only available for offset, called Escanaba (Tr. 3578-81, 3584). The nearest gravure equivalent for 50-pound Escanaba paper is more expensive than the offset paper (Tr. 3579).

k) Service Merchandise

92. Service Merchandise's largest catalog has a page count of approximately 564 and a run length of 13 million (Tr. 4265). Its other 2 catalogs are approximately 100 to 170 pages in length and have a run length of approximately 13 million (Tr. 4266). All three of the Service Merchandise catalogs are printed gravure with two versions, including the base version (Tr. 4265-67).

1) Ross Simons

93. Ross Simons produces eight catalogs per year (Tr. 4543-44). Each catalog has a page count of 36 to 60 and 5 to 12.5 million copies are printed. Each catalog has three different cover versions and is printed offset (Tr. 4543-44, 4564-65). The last time the Ross Simons catalog went out to bid, the gravure bids were approximately five percent less than the offset bids. Ross Simons stayed with offset because it has "last minute" changes in prices and in the items being included. Offset is better for making last minute changes because making new offset plates takes less time than producing new gravure cylinders (Tr. 4556-57).

2) Newspaper Insert Customers

a) Penney

94. Penney's retail division produces Sunday newspaper inserts. Thirty-two events are printed per year and within each event, there are three programs: the full-line department store program, the limited-line department store program, and the soft-line department store program (Tr. 693).

95. Penney's full-line department store program has a page count ranging from 12 to 48 and a run length of 37 million. Each event has approximately five to six versions and is produced by the gravure process (Tr. 693-97).

96. Penney's limited-line department program has a page count ranging from 8 to 36 and a run length of 6 million. Each event has five to six versions and has been produced by the offset process (Tr. 695-96, 700). As part of a program of upgrading the image of its stores, Penney is considering shifting this program to gravure in 1994 to improve its quality (Tr. 734-35; *see* CX-1443-B-C; CPF 420-440).

97. Penney's soft-line department store program has a page count ranging from 8 to 24 and a run length of 6 million. Each event has five to six versions and is produced by the offset process (Tr. 695-96, 700).

98. [] (Tr. 691).

b) Venture Stores

99. Venture Stores produces Sunday newspaper inserts. It produces 53 issues per year, with a page count ranging from 12 to 48. The circulars are printed 100% gravure. In 1992 the run length was in excess of 9 million; in 1993 it was in excess of 10 million (Tr. 814-15, 829). The inserts are unversioned except for two or three weeks a year when a new item is released (Tr. 815).

100. Venture Stores also produces inserts for grand openings with a page count ranging from 20 to 32 and a run length of 100,000 to 200,000. The inserts are printed using the offset process (Tr. 819). Venture purchases its SCB and SCA paper directly from paper mills (Tr. 812, 816).

c) Sterling Inc.

101. Sterling Inc. produces six different issues of flyers (February-Valentine, March, June, August, October, and Christmas), all of which are printed offset. The run length ranges from 900,000 to 12 million and the page count ranges from 4 to 8; occasionally, in the past, it was 12 pages (Tr. 934-35).

d) Bradlee's

102. Bradlee's produces 53 circulars per year using the gravure process. Each circular has a page count ranging from 12 to 56 and a run length of 6.3 million. There are two versions per event. Bradlee's also produces special projects circulars that are printed offset. Each of these circulars has a run length of 200,000 (Tr. 1023, 1027-28, 1030).

e) Target Stores

103. Target Stores produces 53 circulars per year using the gravure process. Each circular has a page count ranging from 12 to 36 pages and 35 million copies, with an occasional smaller copy count of approximately 20 million (Tr. 1077-78, 1081-82). For its stores in the three western states of California, Arizona, and Nevada, approximately nine million copies per week are printed (Tr. 1109).

f) Caldor

104. Caldor produces 53 circulars per year using the gravure process. Each circular has a page count ranging from 12 to 48 and a run length ranging from 10 to 14 million. There are two black type versions (Tr. 1155-57).

105. Caldor also produces circulars for store openings or reopenings using the offset process. Each circular has a page count ranging from 4 to 8 and a run length of 300,000 to 1 million. There are many versions (Tr. 1161-62).

g) Wal-Mart

106. Wal-Mart's inserts are printed 13 times a year. During 1993, Wal-Mart began shifting its predominantly gravure printed program to offset. Each issue has a run length ranging from 60 to 70 million and is divided into several separate jobs, each with many localized versions (Tr. 2257-58, 2260-61).

h) Levitz

107. Levitz Furniture Corporation has a national advertising program consisting of weekly newspaper inserts. The inserts are 8 to 16 tab size pages in length and range from 18 to 20 million in run length and are printed offset or gravure (Tr. 3954). The inserts have two to three four-color versions (Tr. 3956). Levitz has moved this program to an offset only format in order to allow its regional group to make more last minute version changes at low cost (Tr. 3992-93; RX-355).

i) K-Mart

108. K-Mart's major national advertising program consists of a weekly insert that has an average page count of 24 but going as high as 36 pages, with 73 million copies. The inserts are printed offset or gravure and have numerous versions (Tr. 4157-59, 4205-06, 4214-15). [] (Tr. 4234-35).

j) Service Merchandise

109. Service Merchandise's inserts have a page count of approximately 32 and a run length of approximately 28 to 30 million, printed gravure, with 2 versions including the base version (Tr. 4263-65).

3) Magazine Customers*a) AARP*

110. The American Association of Retired Persons ("AARP") produces Modern Maturity and the National Retired Teacher's Association Bulletin ("Bulletin") (CPF 239-240).

111. AARP's Modern Maturity magazine is printed six times a year using the gravure and offset processes. Each issue has a page count of approximately 96 and a run length of approximately 22.4 million. Of these pages, approximately 84 to 88 are gravure with 1 or 2 versions. The rest of the pages (8 to 12) are printed offset with 4 to 20 versions (Tr. 1568-70).

112. AARP's Bulletin is a two-color print job. It is printed on newsprint by the gravure process. The Bulletin has a run length of approximately 22 million and a page count of 20 (Tr. 1564-65).

b) TV Guide

113. TV Guide magazine is printed 52 times a year with a run length of 17 million per issue (Tr. 1644, 1654). TV Guide has basically four components: cover, features, listing editions and advertising (Tr. 1641).

114. TV Guide's cover is four-color, contains four to six pages and is printed gravure (Tr. 1641, 1649).

115. TV Guide's feature section is four-color and has a page count (produced in eight page increments) ranging from 24 to 48, containing 4 to 6 versions (Tr. 1652-53, 1664). The feature section is printed gravure at two locations, San Jose (for Western distribution) and Lancaster (for Eastern distribution) (Tr. 1655).

116. TV Guide's television program listings have 113 versions. All but three of these versions are printed offset (Tr. 1660-61). The remaining three are among the largest listings and are printed gravure (Tr. 1161-62). The listings are two-color (Tr. 1663).

c) National Geographic

117. The National Geographic Society publishes the Traveler Magazine, World Magazine, Research Journal Magazine, and National Geographic Magazine (Tr. 1705).

118. National Geographic's Traveler Magazine is printed six times a year using the offset process. Each issue has a page count ranging from 140 to 160 and a run length ranging from 700,000 to 800,000. There are two to three advertising versions (Tr. 1705-06).

119. National Geographic's World Magazine is printed 12 times a year using the offset process. Each issue has a page count of 32 and a run length of 1.2 million. There are no versions (Tr. 1706-07).

120. National Geographic's Research Journal Magazine is printed by sheet fed offset. Each issue has a page count ranging from 120 to 140 and a run length ranging from 6,000 to 7,000. There are no versions (Tr. 1707-08).

121. The National Geographic Magazine is printed 12 times a year using the gravure and offset processes (Tr. 1709-10). Each issue

has a page count ranging from 140 to 165 and a run length of 9.8 million (Tr. 1710-11). One hundred forty pages are printed gravure and 20 to 25 pages are printed offset (Tr. 1711). The gravure portion is not versioned (Tr. 1494). The offset portion is highly versioned (Tr. 1712-13).

e. Print Buyers Who Have Switched From Gravure to Offset

122. Several print buyers have switched their high-volume work from the gravure to the offset process in recent years, including present buyers who testified in the District Court preliminary injunction case that they could only use the gravure process for their high-volume printing needs (Tr. 5204-06).

123. Wal-Mart primarily used the gravure process to print its high-volume inserts until 1993 (Tr. 2260-61). The job characteristics of Wal-Mart's pre-1993 print program were run lengths exceeding 40 million copies, at least 16 pages, and few versions (Tr. 2260-61; RX-383). In 1993, however, Wal-Mart switched nearly half of its print program to the offset process (Tr. 2261, 5204-06). Wal-Mart chose to use offset because of its flexibility with respect to versioning, reduced distribution costs, and the ability to obtain lower prices for its overall print program (Tr. 2264, 2275-76, 2307-08). [] (Tr. 5204-06). In the future, Wal-Mart expects its print program to reach 100 million households (Tr. 2259).

124. [] publishes [] catalogs, which have job characteristics that place them in the "core" of Dr. Hilke's proposed market (RX-519). These catalogs were done through the gravure process, but are now done offset (Tr. 4004; RX-519).

125. K-Mart, which has been described as "the largest user of pre-printed inserts in the United States and probably in the world," had all its national inserts printed gravure in the past (Tr. 4163; RX-22-E). Today, K-Mart finds the gravure and offset processes to be interchangeable, receives bids in both processes, and uses both processes for its national inserts (Tr. 4158-59, 4163; RX-652). One of the reasons K-Mart has moved more to offset is increased versioning (Tr. 4234-35).

126. Montgomery Ward formerly had its catalogs printed gravure (Tr. 1541, 1389). It left the big catalog business in 1985 (Tr. 1541). Now, Montgomery Ward is having catalogs published under its name using the offset process (Tr. 1542, 1389). This includes catalogs with

run lengths in excess of 5 million copies as well as jobs in Dr. Hilke's "core" market of more than 10 million copies, more than 32 pages, and few versions (Tr. 1542; RX-173). Montgomery Ward is, however, considering a longer run catalog printed by gravure (Tr. 1542).

127. The retail division of Penney publishes inserts called limited-line inserts. These inserts are distributed to areas which have Penney stores that do not have the full Penney product line (Tr. 693). They generally have a run length of approximately 6 million copies, 8-36 pages, and 5-6 four-color versions (Tr. 695-96). In 1987, [] of Penney's limited line bids were awarded to gravure print suppliers (RX-708). By 1992, gravure usage in the limited line program had been reduced to [] (RX-708).

128. Other publishers with long-run catalogs who switched from gravure to offset include Damark and Compuadd Corporation (RX-38; RX-7). Damark publishes catalogs with run lengths of 2-9 million copies, with a range of 40-56 pages (Tr. 5214-15). Compuadd Corporation's catalogs have a run length of 20 million copies and 32 pages (RX-7). However, versioning information with respect to these two print buyers was not available.

129. [] has been a longtime user of offset (Tr. 2014). It publishes approximately [] catalogs annually, with run lengths of [] million up to [] million, an average of [] pages per catalog, and [] versions (Tr. 2015).

130. Recently, [] has been testing the gravure process (Tr. 2015-16). This involves running some of the [] catalogs gravure (*e.g.*, 1 million catalogs out of a 20 million run), soliciting both gravure and offset bids, and comparing the sales results of catalogs printed gravure and catalogs printed offset (Tr. 2015-17, 2018-22).

131. The results of the testing program have not been determined yet (Tr. 2034). The first catalog that [] ran gravure, however, did not meet expectations (Tr. 2018). Further testing of gravure continues (Tr. 2020-22).

132. [] 1993 print program continues to be printed by [], an offset printer (Tr. 4644-46). [] will print 10 catalogs for [] in 1993, with run lengths ranging from [] million copies, page counts of [] pages, and [] versions (Tr. 4644-46).

3. Differences Between the Gravure and Offset Processes

a. Throughput

133. Throughput is the ability of a printing press to produce a given amount of printed product in a particular time period (Tr. 2399-2401) and depends on a combination of web cylinder width, circumference and press speed. Gravure presses have a greater throughput than the usual offset press.

134. Gravure presses in the United States range from 68 to 125 inches in width; heatset web offset presses used in publication printing range from 36 to 66 inches in width (Tr. 2212, 3796).

135. The most common offset presses (the Harris M-1000, the Rockwell/Baker-Perkins G-14 and the Mitsubishi L-1100) are used to print magazines and catalogs and are from 36 to 38 inches wide with an approximate cylinder circumference of 22 inches (Tr. 219-22, 2052, 2600, 4715-16, 2062-63, 4317, 4322, 4508; CX-874). As one Donnelley document stated, two web offset presses of M-1000 dimensions would still be "a peanut size gravure press" (CX-1109-D).

136. These offset presses when configured with 4 printing units and 1 web can deliver 16 pages of four-color printed matter (2 pages around the cylinder and 4 across equals 8 on either side of the web) with dimensions of approximately 8x11 inches. With 8 units and 2 webs, these presses can deliver 32 8x11 four-color pages (Tr. 223-24, 2061-62).

137. Offset press widths are limited by the tendency of cylinders to bend slightly when they rotate at high speeds. This causes a loss of "registration"--the correct alignment of colors in the finished process (Tr. 2079-81; CX-948-B; CX-1111-A-B; CX-122-Z-14).

138. Offset presses used to print magazines and catalogs are limited in cylinder circumference (20 to 42 inches whereas gravure circumferences range from 31 to 60 inches) (CX-265) because of a unique problem called "in-line color compromise" which is caused by the way ink is applied (CX-290-H).

139. To achieve various shades of color, different densities of ink must be applied around and across the cylinder (Tr. 2072). The offset press operator makes the necessary adjustments to add or subtract color on the ink fountain keys (*see* Tr. 3750; CX-295-B).

140. In-line color compromise occurs when pages running in line (below and above each other on the offset printing plate) have incompatible ink adjustment requirements (CX-290-H). Because any adjustment to the density of the color in offset necessarily must affect the same area across the entire circumference of the cylinder, other colors can be adversely affected or vary from the desired shade (*see generally* Tr. 199, 2072).

141. In-line color compromise is not a problem in gravure printing (Tr. 199-200, 895, 1433, 2075, 2112-13, 2209, 3902-03; CX-290-H; CX-298-C; CX-307-B; CX-631-B) because the recessed ink wells can be engraved to specified depths independently of the cells for the other pages in the same line around the cylinder (Tr. 197, 199-200, 2209; CX-290-H; CX-297-D; CX-307-B).

142. Gravure presses are not as limited in width as offset because they overcome the deflection problem by using a system which compensates for it (Tr. 2082).

143. Since gravure presses can use cylinders which offer six-around impressions (meaning six rows of page impressions wrapped around the cylinder) while offset presses use two and four around cylinders, gravure presses deliver more pages per impression than offset presses (CX-265; CX-118-Z-35; Tr. 212-13, 225-26, 1489, 2524-25, 2557).

144. A gravure press of approximately 96 inches in width can print up to 96 standard-size (8.5 x 11 inch) pages per impression (Tr. 225-26; CX-633-M). A gravure press over 110 inches wide can print up to 120 standard-size pages per impression (Tr. 250-51, 1486, 1550). A three-meter gravure press of the type installed at Brown's Franklin, Kentucky facility (with a web width of approximately 125 inches) is capable of producing 132 or 144 pages per impression (CX-981-C; Tr. 2524; *accord*, Tr. 4794).

145. The narrower web of the offset press and the smaller circumference of offset cylinders make it impossible for an offset press to deliver as many pages at a time as a gravure press (*see generally* Tr. 225-26). The most common offset press (the Harris M-1000 and other offset presses with similar dimensions) produces only 16 pages at a time (or 32 pages if operated with 2 webs) (CX-307-C; CX-634-I; Tr. 219, 223-24, 2600, 2937-38).

146. Double webbed presses of the M-1000 type often are referred to as 32-page presses (Tr. 219, 2600, 2937-38). Offset presses with wider web widths and larger cylinder circumferences are

less common than narrower and smaller models, such as the M-1000 (Tr. 222). It is also possible for gravure presses to be double-webbed provided the folders can accommodate the output (Tr. 225-26).

147. Another factor contributing to the greater throughput of gravure presses is the speed (usually expressed in terms of feet per minute) of the press. Modern, state-of-the-art gravure presses can be expected to operate in the 2,600 to 3,000 feet per minute range (Tr. 229-30, 1493, 2400, 2422, 2524, 2617, 3827, 4365; *see* CX-11-Z-21; CX-21-Z-1; CX-119-Z-12-13). These gravure presses have been able to achieve close to the full potential (*i.e.*, rated speed) in actual practice (CX-117-Z-49; CX-119-Z-12-13; Tr. 1493, 2524).

148. On the other hand, Donnelley's January 1990 Technical Directors' Report remarked on a large and growing gap between the rated speeds of offset presses and actual running speeds (CX-733-N; *see also* CX-733-K-M). A September 1990 report prepared by Donnelley's Dr. Peekna arrived at similar conclusions, noting that increases in actual offset press speeds were less than increases in rated speeds (CX-1206-E; Tr. 3885).

149. [] (CX-937-B; *see also* CX-128-Z-60).

150. St. Ives, a Florida-based offset printer, reports actual run speeds in the 1400 to 1500 feet per minute range for its M-1000 presses (Tr. 2601).

151. The net speeds reported by Riverside County Publishing Company for its C-700 tabloid offset presses are approximately 60% of a rated speed of 2,000 feet per minute. Riverside achieves rates of 65 to 70% for its other offset presses (Tr. 2192).

152. The highest rated speed of any offset press currently used for publication printing is in the 2000 to 2200 feet per minute range (Tr. 3819, 3905-06; CX-874-E).

153. There are newer offset presses which come closer to the performance of gravure presses, but it appears that gravure still has a throughput advantage.

154. The offset press with the widest web width (66 inches) is the N-9000, manufactured by Heidelberg/Harris (Tr. 3907, 4331). The N-9000 press is primarily used to print newspaper inserts, coupon books, and telephone directories (Tr. 2108, 4331) and has a rated speed of 2200 feet per minute (CX-874-E; Tr. 3905-06). It is capable of producing up to 72 pages in one impression, when used to produce coupon books (Tr. 3133). When double-webbed, it can produce 112 pages in a single impression (Tr. 4331-32).

155. However, printers using the N-9000, [], have experienced problems with color consistency (Tr. 3141), [] (Tr. 4403-04), [] (CX-118-Z-76).

156. [] (CX-106-Z-67).

157. Another web offset press with a 72-page per impression capability (double-web) is the Lithoman V press manufactured by MAN-Roland (Tr. 893, 2076, 3897-98, 3772; CX-1270-A; CX-1215-C).

158. [] (Tr. 895-96; 2076, 3903; CX-946; *see* CX-1271-A-B; CX-1270). Dr. Andreas Peekna of Donnelley's R&D department called its design "a jump from the frying pan into the fire" (CX-1214-A), and MAN-Roland referred to this press as a "3 around gamble" in an August 1991 letter to Donnelley (CX-1215-C; Tr. 3900).

159. Regardless of press configuration (tandem, single-web or double-web), the record indicates that gravure throughput exceeds that of offset presses in general use, which means that the gravure process gives the printer a lower variable cost.

160. The vice president of pressroom operations for Quad, comparing the throughput of its 96-inch gravure presses to its M-1000 offset presses, concluded that the gravure presses had approximately 50% greater throughput measured in terms of pages per hour (3,472,896 for the gravure press versus 2,228,032 for the offset press) (Tr. 2401).

161. The most productive gravure press equipment identified in the record consists of two 20-unit, three-meter wide gravure presses located at Bauer in Cologne, Germany (Tr. 2582-83, 3942-43; CX-853-G; CX-1173-I). According to literature supplied by its manufacturer, this press is capable of producing 32 million pages of printed product per hour (CX-1173-I; *accord*, CX-766-Z-2). This is much greater than the comparable throughput claimed for the newer technology offset presses still in development (Tr. 3264-66).

162. The greater throughput capacity of gravure makes the process more cost-effective for printing jobs with large numbers of copies and many pages per copy (CX-307-C; CX-634-I; *see* Tr. 2612, 2614). According to one Donnelley document, a 48-page catalog with an approximate 2.5 million run length would take 3 days to produce using one gravure press compared to 14 days on an offset press (CX-290-F; *see also* RX-495-A; RX-496-A; RX-502-A; RX-678-A, indicating 2 weeks or more of press time were required when printing longer run jobs using the offset process).

163. Nancy Kaminsky, who has compared gravure printing costs to offset printing costs as a print buyer at both Bloomingdale's and Victoria's Secret, estimated that an average size book might be on press for two weeks if done offset compared to four days for the same book done gravure (Tr. 2038-39).

164. [] (Tr. 4675) [] (Tr. 4671) (*see* RX-188-A; RX-378-A).

b. Durability

165. Offset plates are less costly and time-consuming to prepare than gravure cylinders; thus, the offset process has a lower start-up cost than gravure. Offset's initial cost advantage is, however, overcome in higher volume jobs in part because offset plates require more frequent replacement than gravure cylinders (Tr. 246-47, 1484-84, 2614; *see* CX-522-B; CX-633-O, Z-9; CX-634-J, Z-5-12; CX-900-Z-1).

166. Offset plates offer from 400,000 to 1,500,000 impressions before wear and product quality deterioration require their replacement (Tr. 2214-15 (500,000-600,000); Tr. 2846 (700,000 to one million); Tr. 1600, 1714 (one million); Tr. 2374, 243 (1.2 to 1.5 million)).

167. Recent improvements in technology have resulted in increases in plate life--up to 2.8 million impressions (Tr. 3757, 4611, 4922-23); however, these plates are more expensive than conventional offset plates (Tr. 4616).

168. Gravure cylinders are coated with a thin layer of chrome for durability (Tr. 244, 2558) and can last up to ten million impressions or more before re-chroming of the cylinder is needed (CX-292-H). This operation, referred to as a "de and re" does not need to be performed as frequently as the plate changes which are required in offset (Tr. 243-48; compare CX-1358 with CX-1360).

169. James Melton of Quad Graphics testified that in his experience "de and re" occurs every 5 to 10 million impressions (Tr. 2375) and Roy Hodgson, formerly of Quebecor, estimated that "de and re" typically occurs after 6 to 9 million impressions (Tr. 244). Walter Voss, who served as President of Meredith/Burda prior to its acquisition by Donnelley (CX-900-F), testified that it was commonplace for Meredith/Burda to achieve run lengths of eight to nine million on its gravure presses without changing or re-chroming cylinders (*see* CX-900-Y). At Brown Printing Company's Franklin,

Kentucky gravure facility, cylinder "de and re" is generally not needed (Tr. 2558). Since gravure presses can print many pages at once, it is not infrequent for jobs of 5 million copies or more to be printed in a continuous run without a cylinder change (Tr. 247-48, 2558, 2560; CX-900-Y).

c. Cut-Offs

170. The cut-off on a press is equal to the circumference of its cylinders. One press revolution equals one cut-off. The cut-off of the press limits the size of the end product because each page or group of pages must fit within the cut-off (Tr. 211, 215-18; CX-123-Z-17-18).

171. Offset presses can accommodate plate and blanket cylinders of only one circumference (Tr. 215, 1487, 2086, 4715; CX-102-Z-173) and thus have "fixed cut-offs" (Tr. 2837; CX-1142-Z-43). As a consequence, offset presses only print products in sizes that fit the particular press, whereas most gravure presses produced in the past ten years have a variable cut-off feature which allows the press to accommodate cylinders of different circumferences (Tr. 215-17, 1487, 1508, 4870-71, 3939; CX-102-Z-52, Z-53, Z-57).

172. Because of its variable cut-off feature, the gravure process can achieve greater loading efficiency and more paper savings than offset for many jobs (*see* Tr. 826-27, 2445-46, 2612-13).

d. In-Line Stitching and Trimming

173. Offset presses do not generally stitch and trim on the press line, primarily because their low page capacity often renders them incapable of printing all of the pages in a single print run (Tr. 2376-77, 2789, 2947).

174. The ability of gravure presses to stitch and trim a greater number of pages in one impression is an additional advantage of the gravure process (Tr. 201-02, 937, 952-53, 1491-92, 2205-06, 2553-54). The fact that the entire product must be stitched in a separate operation adds substantially to the cost of the offset process (Tr. 953, 2727-28). In fact, one witness estimated that stitching and trimming a product off line (as opposed to stitching and trimming on press) could add as much as 20% to the cost of the print job (Tr. 946).

e. Paper Waste

175. Plate and blanket gaps in offset contribute to a certain amount of paper waste; by contrast, in gravure the image is continuously engraved around the entire circumference of the cylinder, eliminating any "gap" paper waste that results from offset gaps (CX-307-C; Tr. 2088, 2091-93; *see also* Tr. 869, 1488).

176. Gravure's lower web tension and lower temperature dryers result in fewer web breaks and less paper waste (Tr. 2373; CX-178-Z-10-11; CX-535-Z-29).

177. The result of these factors is a general industry experience that gravure paper waste is less than that of offset (Tr. 233-34, 869, 2949, 1716, 6056, 2035-36, 2446, 4871-72; CX-499-D; CX-717-J, Z-1; CX-593-Z-28). Even a change in trim size can affect paper waste and costs (Tr. 6090-91; CX-1412).

f. Paper Grade and Weight

178. Paper used in the web offset process often contains a clay-like substance known as "sizing" which is needed to absorb the water applied to the paper; as a result, lower weight paper cannot be used (Tr. 176-79, 3699-3703; CX-634-T). Also, offset paper must withstand the tackiness of offset ink and the high temperatures used in drying it (CX-633-F).

179. Sizing is not required in the gravure process (Tr. 178), and since high temperatures and water are not used, the paper need not be treated to prevent water absorption (CX-1435-E). Because gravure inks are more fluid and ink is transferred from the cylinder wells directly to paper, lesser grades of paper receive the ink as well as higher grades (CX-634-U).

180. Consequently, the gravure process yields better results than offset when printing on cheaper, lighter weight, uncoated grades of paper such as supercalendared grade B and machine-finished stock (Tr. 136, 180, 238, 353, 727, 796-97, 816, 827, 831, 850, 868, 921, 923, 1044-45, 1089, 1093, 1124, 1162, 1183-84, 1420-21, 1472, 1490-91, 1760, 1830-31, 1918-19, 2005, 2196, 2208-09, 2304, 2372, 2395, 2446, 2557-58, 2640, 2692, 2845, 2888-89, 4443).

181. The use of lighter weight paper can result in significant reductions in cost because it is less expensive than paper used on offset presses (Tr. 1093-94, 1107, 2005; CX-301-Q; CX-634-U; CX-

1452-A). Significant postal savings can also be realized by using lighter weight paper (CX-293-B; CX 303-B; CX-354-B; Tr. 183, 2004-05). As postal rates increase, gravure's cost advantage over offset will also increase (Tr. 183; accord, CX-293-D).

182. Roy Hodgson, complaint counsel's industry expert, confirmed the relative advantages of the gravure process on lighter paper:

My experience is that lightweight papers are less economical when they're running in offset, and I think that there is a quality difference on lightweight papers.

Q. And which process would have the quality advantage in lightweight papers?

A. I think that gravure has the quality advantage on that particular stock.

(Tr. 353).

183. However, paper producers have recently developed lighter paper grades that are suited to the offset process (Tr. 3651, 3653-54, 3681, 3683-84, 3687).

g. Quality

184. The ultimate consumer (*i.e.*, the person who purchases a magazine or receives an insert or catalog) cannot tell whether it has been printed by the gravure or the offset process (Tr. 1718-19, 4267) and several retailers and catalogers who sell quality products use the offset process for their high-volume publications (Tr. 2968-69, 1390-91; RX-176; RX-188; RX-381; RX-173; RX-172).

185. High quality magazines such as National Geographic and Modern Maturity use both offset and gravure for different parts of their publications (Tr. 1710-11, 1569).

186. A number of witnesses testified that for their purposes offset and gravure offer comparable quality (Tr. 1366, 1719, 2394, 3567-68, 3675-77, 3975, 4267, 4546, 4551). On the other hand, print buyers such as Mr. Henry of Penney proclaimed the superiority of gravure over offset:

The one thing to remember is we don't sell preprints. I sell merchandise. That jacket is burgundy in Seattle and it's burgundy in Duluth. So there is nothing worse than disappointing . . . a customer who thinks and looks at the preprint and sees a red sports jacket and then walks into the J. C. Penney store and finds out on the rack that the jacket that's on sale is burgundy. She will, number one, be angry at the J. C. Penney Company, walk away, go shop in Dillard's and we may never see her again.

... the important thing is the integrity of the color throughout the length of the run ... that burgundy jacket must be burgundy from copy number one through copy number 37 million. And that's what's extremely important in the gravure process is that it does protect that quality, it does show the detail throughout the entire run of the jacket which is also extremely important.

(Tr. 697-98). (*see also* F 96.)

187. During the course of the trial, some witnesses were presented with samples of gravure and offset printing and asked to distinguish between them; they were not able to without the use of a magnifying glass, including Mr. Hodgson, who claimed that print buyers can see the difference between the two processes (Tr. 347), as well as a print buyer who had previously testified that gravure had a quality advantage over offset (Tr. 384, 1056).

188. Nevertheless, many printers and print buyers believe that gravure produces a better or, in the words of Mr. Hodgson, a "more elegant" printed product (Tr. 258, 351); and, Donnelley's Chairman and CEO declared in a speech that the quality of gravure is "unequalled by other printing methods" (CX-260-F).

189. Many print customers prefer what they perceive as the high-quality "gravure look," particularly when high volume printing is required (*see* Tr. 577, 698, 709-10, 791, 817-18, 1024, 1044-45, 1094-96, 1158-59, 1204, 1422-24, 1429-30, 1442, 1572, 1595, 1650-51, 1659, 1718, 1765, 1767, 1803, 1915, 2034-35, 2149-50). Even some offset printers agree that gravure printing provides better color fidelity than offset printing (Tr. 2196, 2786-87).

190. Complaint counsel argue that the quality preference of print buyers is based upon real differences between the two which are the result of gravure's simplicity as compared to offset (CX-633-I; Tr. 232, 2373, 2586, 2615, 4872-73). These differences include: "gap streaks" (Tr. 2090), "fan-out" (the tendency of the offset web to expand as water is applied to it) (Tr. 2083, 2210), plate wear, which affects color consistency (Tr. 708, 722-23, 739, 2088; CX-290-D), the need to monitor ink, water, and temperature balance in offset (CX-634-W), the wider tonal range of the gravure process (*see* CX-260-F; CX-290-C-D; CX-291-G; CX-292-M; CX-295-B; CX-297-B; CX-522-D; CX-523-E, F; CX-524-A, C; CX-525; CX-526-A-F; CX-527-K; CX-534-O; CX-633-H; CX-634-R), and in-line color compromise (F 140).

191. These problems are real; however, since even complaint counsel's own expert could not distinguish between offset and

gravure products without the use of a magnifying glass, it appears that offset printers are able to overcome offset's problems in many cases. (*See* Tr. 3750-56). Nevertheless, while the actual quality differences between gravure and offset may be minimal, the subjective opinion of print buyers who prefer gravure is as much a constraint on their choice of process as would be an objective, verifiable opinion.

4. Recent Developments In Offset and Gravure Technology

a. Gravure

192. The web width of gravure presses has gradually increased--from 70 to 80 inches in the early 1970s to over 100 inches or more at present (CX-102-Z-127-29). Three-meter gravure presses (118 inches wide) have been used in Europe for several years and were recently introduced in this country. The widest gravure press used for publication printing is 125 inches wide (CX-504-Z-10; CX-834; Tr. 2523), and future gravure presses may be even wider (*see* CX-1453-B; CX-256-F; CX-775-L; CX-939-H; CX-1240-L; CX-113-Z-107-C-E; CX-487-B, F).

193. Gravure press speeds have increased steadily from less than 1200 feet per minute in the 1960s to 3000 feet per minute at present (CX-120-Z-30-31, Z-38). The most widely used offset press, the Harris M-1000, has a web width of approximately 38 inches and a rated speed of 2000 feet per minute (Tr. 4321; CX-128-Z-59-60).

b. Offset

194. One printer testifying for complaint counsel stated that as offset presses have improved, "the area of competition between the two presses . . . has definitely gotten broader and . . . there is more work crossing over between the two processes" (Tr. 2609). And, an industry publication concluded that "the latest innovations in web offset . . . [have made] web offset competitive with gravure in long-run printing" (CX-1142-Z-43).

195. Donnelley claims that new presses such as the Heidelberg-Harris M-3000 and the Lithoman V will accelerate this trend (RPF 129), citing the formation of Donnelley technical and managerial committees to suggest ways of making "gravure more competitive

with offset" in light of the "significant gains in terms of both quality and productivity" that offset has made (RX-150; RX-161-A; RX-163; RX-164; Tr. 3778-88, 4582-86). And, Donnelley management has met with gravure equipment suppliers and urged them to develop new technologies in order to keep gravure competitive with offset (RX-156; RX-262; Tr. 4586-88). Gravure industry groups have also recognized that "with the ever advancing technology in offset, the competitive advantage of gravure is becoming questionable" and that improvements in gravure technology "will be mandatory to protect our market share within the commercial printing community (vs. offset/flexo)" (RX-153-A). Donnelley has even considered replacing some of its gravure presses with M-3000's (RX-142-A), and [] (Tr. 4444, 4462).

196. The Harris M-3000 or "Sunday" press has a 54-inch web width, which is 50% wider than the M-1000, with approximately the same cut-off or cylinder circumference as the M-1000 (Tr. 4345, 4511). This enables the press to produce 24 standard-size pages per impression, or 48 pages per impression in a double-web configuration (Tr. 4346).

197. Because the use of a gapless blanket technology and other concepts is viewed as a radical departure from conventional offset press design, many offset printers are reluctant to place orders for the M-3000 without seeing the technology proven (*see* Tr. 1481, 2220, 2543-44, 2622, 2804, 4653, 4792-93). The unconventional nature of the press (its increased web width while retaining a narrow cylinder circumference) raises particular concerns about cylinder deflection (Tr. 4792-93; accord, Tr. 2079-81).

198. Donnelley is ordering three M-3000's, but [] (Tr. 3929-30, 4468-69, 4579-81). Donnelley is also negotiating the purchase of three-meter gravure presses and its president testified that he does not view the M-3000 as rendering gravure obsolete (Tr. 4579-81).

199. New gravure and offset developments may result in crossover presses that create more competition between these processes (*see* Tr. 2609; CX-1272-G), but Mr. Hodgson testified that the new technology was aimed more at enhancing the presses in their own markets and that offset and gravure are still "quite separate marketplaces" (Tr. 290-91). And Mr. Sullivan, an offset printer, stated that while the M-3000 was designed to go after some of the high end gravure market, some of the work which has been

traditionally done gravure would be unaffected by the M-3000, even if it is successful (Tr. 2806-08).

200. [] (CX-1272-G).

201. The following table of high volume publications which are printed by the offset process fall within complaint counsel's and Dr. Hilke's alleged relevant product markets, *i.e.*, four-color print jobs with a run length of more than 10 million copies, more than 32 pages and, in most cases, not highly versioned (less than 4 four-color versions) (Tier I) or four-color print jobs with a run length of more than 5 million copies, more than 16 pages and not highly versioned (Tier II) (Tr. 299).

HIGH-VOLUME PRINT BUYERS
WHO USE OFFSET PRINTING

PRINT BUYER	RUN LENGTH (MILLIONS)	PAGES	SOURCE
[]	8-24 21.6	80-120 108	[] Tr. 4645-4646; RX-188; [] Tr. 4627
[]	11.1 10.3	96 104	RX-173 RX-519
[]	11.1	96	RX-173
[]	10.1	40	RX-4946, RX-198
[]	10.1	48	RX-496, RX-202 [] Tr. 2811-2814
[]	5-12.5	48-60 (36-page "core")	[] Tr. 4544-4545
[]	8-30	40-48 (36-page "core")	Anders Tr. 3544-3545
[]	10.0 13.1	16-28 16	RX-80-C, RX-81 McCoig Tr. 776,804 RX-184
[]	47.9	16	RX-383 Baron Tr. 2260-2261
[]	15.2	28	RX-276-Q, data point 420
[]	12.1	20	RX-212
[]	7-8	96	[] Tr. 2933
[]	7.5	48	RX-201-B, RX-201-O- Z-40
[]	7.6	48	[] Tr. 4626; RX-381
[]	6.1 6.1 5.3	20 16 20	RX-205 RX-207 RX-208
[]	7.0	80	RX-374

This table suggests that newer offset technology may be making some inroads into what was traditionally viewed as the domain of gravure.

202. Nevertheless, after considering the record evidence relating to new offset technology, Dr. Hilke concluded that it did not affect his opinion that a separate market for high volume gravure publications existed (Tr. 6070-71) because new offset technology is likely to diffuse into the market slowly, so that any substantial changes in the boundaries of the two markets are likely to be several years away (Tr. 3260-61).

5. Gravure and Offset Prices

203. Donnelley documents suggest that offset and gravure prices are independent of each other.

204. In a document entitled "Maxwell Communications: Strategic Considerations," a Donnelley employee stated that the retirement of a portion of Maxwell's 40 gravure presses could "Raise prices on gravure work" independent of changes in versioning and offset technology (CX-45; *see also* CX-47-A, C-D).

205. Donnelley prepared quarterly pricing reports for each quarter from the first quarter of 1982 until the fourth quarter of 1989 (CX-10-H; CX-674-92). These reports were assembled by almost 100 people and were used to assess pricing trends and to prepare budgets (CX-88-F; CX-147-Q; Tr. 4595). They were discontinued in early 1990 in conjunction with decentralization of the pricing function (Tr. 4594-96, 6106-07).

206. Dr. Hilke analyzed these reports and found that for the 31 quarters in which gravure and offset prices were tracked, they moved in opposite directions 48% of the time (CX-700-A; Tr. 3192-93).

207. In 8 quarters (or 26% of the time) the absolute difference between the percentage price changes was over 10 percent and in 19 quarters (or 61%) the absolute difference between the percentage price changes was over 5% (CX-700-A; Tr. 3193-94).

208. CX-81, the price tracking report for the fourth quarter of 1989, tracked pricing trends on an annual basis. Analysis of this report reveals that the annualized gravure and offset prices moved in opposite directions in two years out of eight (1988 and 1989) and that the difference in price movements exceeded five percent in every year except one (1986) (CX-700-D).

209. Dr. Hilke testified that the pricing data in the quarterly pricing reports may understate the degree of pricing independence of

high volume publication gravure printing because it includes gravure prices for low volume publication gravure printing (Tr. 3203).

210. Industry witnesses testified that during the post-acquisition period, gravure and offset prices dropped, but not to the same degree. For example, according to Mr. Hodgson, prices for gravure held up better than prices for offset (Tr. 335-36; *see also* Tr. 888-89, 1165-66, 1909-10, 2040-41, 2454, 2616, 2630-32).

211. A record of divergent price movements and price changes of different magnitudes for the gravure and offset processes, as shown here, is inconsistent with the claim that there is a single overall printing market (Tr. 3194-95). Furthermore, if offset were a close substitute for gravure, an increase in the relative price of gravure should lead to a decline in gravure volume. CX-700 shows no such result (CX-700; Tr. 3195-97, 3522-25).

6. Economics of Gravure for High Volume Publication Printing

a. Breakeven

212. The "breakeven" or "crossover" point is the number of copies at which a particular print job with given specifications is equally costly to print using either the gravure or the offset process (Tr. 867-70, 924-26, 1567, 1929).

213. The breakeven point between gravure and offset is frequently expressed in terms of the number of impressions (CX-250-H). The number of pages and versioning, among other factors, can affect when the breakeven point occurs (Tr. 1472, 1485, 1488-90).

214. The relatively low fixed or up-front costs of offset and the relatively low variable costs of gravure imply that offset is generally more cost-effective for shorter runs, while gravure is more cost-effective for longer runs. If the run length is too short, the long run advantages of gravure will not counteract its higher fixed costs (Tr. 263, 574, 867-70, 1472, 1484, 1496, 1499, 1525, 1572, 1577-78, 1713, 1737, 1765, 1817, 2155, 2215, 2434, 2553, 2612, 2683, 2693, 2848, 2921, 3090-91). However, a five percent differential between gravure and offset, absent quality considerations, is not reached until a run length even greater than the breakeven point (Tr. 3152-54).

215. The breakeven point is determined by the specifications of a particular job and the characteristics of the presses being compared (Tr. 1485; *see generally* Tr. 3152-53). Nevertheless, the general

proposition that a breakeven point exists for most page counts and page sizes is confirmed by cost studies comparing specific jobs on specific gravure and offset presses and is reflected in CX-1225 and documents found in the files of both Donnelley and Meredith/Burda (*see, e.g.*, CX-209; CX-250; CX-1204).

b. Run Length

216. General industry consensus is that at a certain volume (five million copies or more) gravure is less expensive than offset (Tr. 136-37, 912, 918-19, 1426, 1427-28, 2002, 2465-66, 4223-24, 4967, 5965-66; CX-120-Z-69-A). For example, the former president of Holladay-Tyler, an offset only printer who is now with Judd, also an offset only printer, acknowledged that:

From a million and a half up to 5 million is a very grey area, and over that, I think, gravure has the market locked up.

(Tr. 2783).

217. The gravure advantage for long runs is reflected in print buyers' decisions to switch to that process as the run length of their publications increased. The magazine Plain Truth was shifted from offset to gravure by Donnelley when its circulation reached 4.5 million copies (Tr. 2650-52), and Bloomingdale's Christmas catalog, with a run length of some 4 million copies and 96 pages, was switched from offset to gravure in 1989, with substantial savings (Tr. 2002-03, 2977-78).

218. [] (Tr. 916-18, 1523, 1551-53, 2012-38, 2925-28, 5968-74, 6208-12; *see also* CX-1446-B-C; CX-1452).

219. Sterling, Inc., prints a spring and Christmas catalog with approximately 20-24 pages which is distributed by both newspaper insertion and the postal service (Tr. 932-33). Before 1988, the catalog had been printed using the offset process (Tr. 947). In 1988, when the run length reached approximately six million copies, Donnelley suggested to Sterling that the catalog could be printed more economically using the gravure process, and Sterling followed Donnelley's recommendation (Tr. 928, 947-48).

c. Page Count

220. Page count can also affect the relative costs of printing a job using gravure or offset--for if the page count is too small, a job is less likely to take full advantage of gravure's lower running costs (CX-297-C; CX-305-A, D).

221. Generally, offset presses can print 32 pages, while gravure presses print at least twice as many; hence, an 8 page, 2 million copy job running on a 64 page gravure press would require only 250,000 impressions. Five hundred thousand impressions would be required on an offset press (*see* CX-300-B; CX-307-C).

222. Mr. Hodgson testified that the typical offset press used in the United States can deliver a maximum of 32 pages, so there is some reason to use a page count of over 32 to identify the core of the high volume publication gravure printing market (*see* Tr. 349).

223. Offset operates at a cost disadvantage compared to gravure for print jobs with page counts and page sizes that are sufficiently large to require multiple press runs in offset when a single press run would be sufficient in gravure (Tr. 251, 573, 2196, 2216, 2681-83, 2833-34, 3092).

d. Versioning

224. Versioning, which occurs when not all copies of a particular issue of a magazine, catalog, or insert have identical printed content, affects the relative costs of gravure and offset printing (Tr. 252-53). Versioning may require major changes involving the substitution of all plates (in offset) or cylinders (in gravure) (Tr. 254, 256-57, 3090, 3093). The costs of versioning are greater in gravure than in offset, and the gravure disadvantage increases as the extent of versioning increases. Because four-color versioning requires that at least four gravure cylinders or four offset plates be changed, the cost disadvantage to gravure is greater for four-color versioning than it is for black-only versioning (Tr. 253-54, 951-52, 3093).

225. If the number of versions is great enough, even a high-volume job with many copies and a high page count may be printed more economically using offset rather than gravure (Tr. 2449-50, 2496-98, 3101-02, 3127-28).

226. Run length, page count and the extent of versioning are not the only factors which affect relative cost; trim size and capacity commitment also affect costs (Tr. 3098-99, 3103-04).

e. Industry Opinion

227. Donnelley employees recognize the economies that favor gravure over offset for high volume publication printing: A Donnelley document written in September 1989 concluded that, at run lengths above two and a half million, economics and customer preference weighed heavily in favor of the gravure process (CX-11-T, V, Z-2; CX-17-Y, Z-1). Other Donnelley analyses show breakeven points in the range of 1.6 million copies or less (*see e.g.*, CX-250-S; CX-291-C; CX-305-A; CX-306-A-C; CX-571-I-K).

228. A presentation to Donnelley's board of directors in the fall of 1988 stated:

The choice of printing process is primarily economic, with offset the process of choice for medium length jobs and jobs with multiple versions, while in gravure, we can offer our customers a wide variety of size on the same printing press as well as the advantage of lower cost on longer runs.

(CX-1072-D).

229. A seminar presentation by a Donnelley employee (CX-634; *see* Tr. 1089-90) stated:

Printing Process Comparison

<u>Feature</u>	<u>Offset</u>	<u>Gravure</u>
Economics	Shorter runs fewer pages	Longer runs more pages
Versioning	Less costly * * *	More costly

(CX-634-Y).

230. A letter to a potential Donnelley customer in March 1988 stated:

Offset presses are smaller than gravure presses. They cost less to purchase, to operate, and to makeready. Also, the printing surface (plates) are considerably less expensive.

Simply put, the fixed costs are quite a bit lower than gravure but the running costs (on press) are considerably higher. Therefore, the "short" runs, offset is less expensive. For "long runs", gravure is less expensive. The longer runs "spread out" the higher gravure fixed costs.

The "break even" quantity between web offset and gravure is not a constant since a large number of pages and lower quantity may equate to a fewer number of pages and large quantity. For example, 3mm copies of an eight page may be most economically printed web offset, whereas 24 pages at a 3mm count may be best produced gravure.

(CX-297-C).

231. In making investment decisions, printers often examine the average type of work they do. A concept sometimes used is a "model job." Various documents refer to this concept and show that offset equipment is usually expected to do jobs with short run lengths (Tr. 3162-68; *see, e.g.*, CX-546; CX-547).

232. Donnelley's training manual contains a chart which shows gravure roughly 30% cheaper than offset at run lengths of 3 million and 10 million (CX-633-W). Offset's "inability to compete with gravure at higher counts" was specifically noted by Donnelley marketing personnel (CX-589-C).

233. Third-party documents and testimony also confirm that offset's ability to compete with gravure is limited for high volume work (CX-900-X-Z-1).

234. Summarizing the effects of run length, page count and versioning, several third-party printers testified that high volume publication printing is the natural domain of gravure:

Q. What if we did qualify and say for runs of over 10 million copies, over 32 pages with four or less color versions, do offset and gravure compete for these jobs?

A. No.

Q. Are these clearly gravure jobs?

A. Yes.

(Tr. 2397).

... I would say a run of four or five million without a version is pretty much a very good one for roto.

(Tr. 2214).

Q. Do you view any gravure companies as competitors?

A. Not generally.

Q. And why is that?

A. Well, I see them as different processes. It's a number of reasons. Generally, I see gravure as very long run, high page count, low versioning.

(Tr. 2682-82).

Well, 10 million and page counts of 32 or more, typically, in my experience, today, yesterday, tomorrow, is going to be done gravure.

(Tr. 2612).

235. Other print customers concluded that gravure and offset do not compete for long run jobs (Tr. 713, 1361-63, 1403, 1737).

7. Analysis of High Volume Publications Produced by Gravure and Offset Printers

236. CX-1167 is an exhibit prepared by Dr. Hilke using information obtained from 29 gravure and offset printers which analyzes, for 1990, their four-color print jobs with over 5 million copies and with 16 or more pages.

237. Dr. Hilke concluded from this document that the product market and the core of that market are substantial: 521 and 252 billion pages printed per year in those markets (Tr. 3098-99, 3101-05; CX-1167-C, C-1) (complaint counsel's largest product market consists of four-color gravure printing jobs with at least 5 million copies, at least 16 pages and less than 4 four-color versions (Tr. 2997-98, 3419-20, 6149-50); the "core" of this market consists of four-color gravure jobs with at least 10 million copies, more than 32 pages and less than 4 four-color versions (Tr. 2997, 3097)).

238. Dr. Hilke's analysis, which uses number of copies, number of pages and number of versions to identify the relevant product market, confirms that these factors are highly predictive of which jobs will be done gravure and which offset (CX-1167).

239. In the wider alleged product market, more than fifty customers had jobs printed by third-party gravure printers in 1990 (CX-1167-I, K); counting Donnelley and Meredith/Burda, the number of high volume publication gravure printing customers was well in excess of fifty. There were approximately three dozen gravure customers in the so-called "core" market (RX-665) (however, *see* F 363).

240. CX-1167 demonstrates that a substantial amount of high volume publication printing was done by the gravure process and that the proportion increased even further as the number of copies in the job increased. For example, for jobs of more than 32 pages which are not highly versioned, approximately 88.6% of the volume in jobs over 5 million copies, 93.9% of the volume in jobs over 7.5 million, and 95.7% of the volume in jobs over 10 million copies were done gravure:

GRAVURE AND OFFSET PORTION OF LOW VERSIONED JOBS OVER 32 PAGES

<u>Number of Copies</u>	<u>Billions of Pages</u>	<u>Gravure Percentage</u>	<u>Offset Percentage</u>
5 million plus	460	88.6%	11.4%
7.5 million plus	318	93.9%	6.1%
10 million plus	264	95.7%	4.3%
12.5 million plus	205	97.6%	2.4%

(CX-1167-C).

241. The proportion of high volume publication printing being done gravure remained higher than offset even if the number of pages per copy was reduced or if the number of versions was increased. For example, 77.4% of jobs with 10 million copies or more were done gravure even if the page criterion is relaxed to 16 pages and no restriction is placed on the number of versions (CX-1167-C-1). Adding the versioning restriction alone (less than 4 four-color versions) increases the gravure proportion from 77.4% to 86.6% (*Id.*). Adding the page count criterion (more than 32 pages) alone results in 93.8% of the work being done gravure (CX-1167).

242. Although CX-1167 does not include all gravure or offset jobs above 5 million copies and 16 pages or more, the figures shown in the exhibit present a reliable picture of publication printing meeting these characteristics that accords with record testimony and documents (Tr. 6118; CX-1167-D). For example, market share statistics derived from the data in CX-1167 correspond closely to the market share statistics based on capacity (CX-1167-D; Tr. 3100, 3326) (F 378, 379).

243. Despite what appears to be convincing evidence that print customers prefer gravure over offset for high volume jobs, Dr. Hausman, emphasizing offset's share of such jobs (over 11% for run

lengths exceeding 5 million copies), testified that these processes do compete meaningfully for such jobs (Tr. 5385-87). For the reasons given in my conclusions of law, I reject his opinion.

244. Other evidence of gravure's advantage over offset is found in analyses by or for Donnelley of gravure and offset costs which reveal that beyond a few million copies, gravure is less costly than offset when the page count is high and there are relatively few versions. For example, a 1988 study entitled "Gravure Competitiveness and Title Improvement" by the Boston Consulting Group (BCG) which compared the costs of printing a catalog on offset and gravure presses (CX-250) was analyzed by Dr. Hilke who concluded that for a 16-page catalog the breakeven point occurs somewhere between 6 and 7 million copies, and at 10 million copies the offset cost disadvantage is 9.2%, rising to 17.6% at 20 million copies and 21% at 30 million copies (CX-1164-D; Tr. 3146-51).

245. For a 48-page catalog, the breakeven point occurs at 2 million copies (CX-1164-C). The offset cost disadvantage rises to 16.1% at 5 million copies, 22% at 10 million copies and 24.9% at 20 million copies (CX-1164-C).

246. Dr. Hilke compiled CX-1433, which modified the assumption in CX-1164 about the replacement of offset plates from every 700,000 impressions to every 2 million impressions. He revised CX-1164 further by assuming, in accord with CX-316, that solvent recovery would generate revenue equal to 25% of gravure ink cost. For a 16-page catalog Dr. Hilke found that the breakeven point would occur between 5 and 6 million copies. The offset cost disadvantage would be 13.8% at 10 million copies and 22.6% at 20 million copies (CX-1433-B). For a 48-page catalog, the breakeven point would be reached between 1 and 2 million copies. The offset cost disadvantage would be 21.6% at 5 million copies, 26.5% at 10 million copies and 30.6% at 20 million copies (CX-1433-A).

247. Dr. Hilke also analyzed, in CX-1165, a Donnelley comparison of gravure and offset presses in 1989 (CX-209). He calculated that for a 48-page catalog whose page dimensions were those of the Penney big book, the breakeven point between a 95-inch gravure press and a Harris M-1000BE offset press would occur between 1 and 2 million copies (CX-1165-C). Using the same methodology as in CX-1164, the offset cost disadvantage was 27.4% at 5 million copies, 33.9% at 10 million copies and 37.1% at 20 million copies (CX-1165-C).

248. Dr. Hilke also found, in a comparison between state-of-the-art three-meter gravure and anticipated offset presses such as the M-3000, that gravure would continue to enjoy over a five percent cost advantage (*see* CX-1432; Tr. 6080-86, 6094).

249. A March 1992 memo by a Donnelley employee compared the cost of printing using either the M-3000 offset press or a 94-inch gravure press (CX-1225). The memo included a cost comparison based on printing 13 million copies of a 48 page form for the [] catalog and a similar cost comparison for the [] catalog. The [] comparison showed a cost advantage for the 94-inch gravure press of \$2.11 per thousand 48-page forms, or 8.9% (CX-1225-G).

250. According to a Donnelley analysis in September 1989, printing TV Guide using a combination of gravure and offset would be 20% less costly than using offset only (CX-1204-A; Tr. 3856-58. *See also* Tr. 1696-97).

251. The testimony of industry members and documents presented by complaint counsel support Dr. Hilke's opinion that gravure has a cost advantage over offset for high volume, low version jobs.

252. Webworks, an all-offset printer, produces highly versioned jobs with 8 to 12 pages (Tr. 2830-32). It does not compete for high count magazines because, in the opinion of Mr. Pope, such work is clearly gravure in nature (Tr. 2834).

253. The CEO of St. Ives, another all-offset printer, testified that:

Well, 10 million and page counts of 32 or more typically, in my experience, today, yesterday, tomorrow, is going to be done gravure.

(Tr. 2612).

254. After purchasing the Star magazine, which had previously been printed offset, the publisher of the National Enquirer realized a \$14 million saving by switching the printing of the Star from offset to gravure and printing both the Star and the National Enquirer in a single print run on the same gravure presses (Tr. 4704-05).

255. Bloomingdale's realized significant savings by switching its Christmas catalog with over 100 pages and 4 million copies from offset to gravure (Tr. 2003, 2927-28).

256. Mr. Habeck of K-Mart testified that gravure would be the less costly method of printing a continuous run of ten million copies with no versions (Tr. 4190, 4223).

257. Dr. Hilke presented a graph (CX-1190) based on comparisons of offset and gravure prices presented by two witnesses in this proceeding, Ian Deutsch of Sterling and Charles Wells of Current (*see* CX-764; CX-1177), which shows an offset price disadvantage exceeding 20% for long run jobs for both customers (CX-1177-A; CX-1190-A).

258. Dr. Hilke also prepared a study which shows that the offset bid disadvantage was 26.2% for the [] [], a two-color publication of approximately 22 million copies and generally 20 pages (CX-1411; Tr. 1564).

259. Mr. Charles Allen, the publishing director for the American Association of Retired Persons, testified that to print the 88 page gravure portion of Modern Maturity, a magazine with a circulation of 22.4 million, using the offset process would cost at least 5% more than gravure (Tr. 1563-64, 1568, 1621) and Mr. Angstrom of St. Ives claimed that at sufficiently long run lengths the cost spread between gravure and offset becomes too great for offset to take away sales from gravure even if gravure prices rose by 5% (Tr. 2603-04).

260. Sears' smaller catalogs and specialty catalogs have a page count ranging from 48 to 200 and a run length ranging from 1 to 9 million. The specialty catalogs were bid out annually and gravure won all of the bids (Tr. 1768-70).

261. The Penney catalog division's smallest jobs are in its market support program. Each market support catalog ranges from 200,000 to 1.3 million copies and contains 16 to 48 pages with no versions. Penney finds that gravure generally wins the larger jobs in this range, such as the runs over 650,000 copies (Tr. 564, 570-72).

262. [] had the largest high volume, low version offset program in 1990, accounting for approximately 30% of high volume offset work supplied by third-parties (CX-1446-B); however, because of the large potential savings from switching to gravure in high volume work (RX-308), [] is engaged in an extensive gravure testing program for its long-run, high page-count catalogs (Tr. 2012-26).

263. One of [] offset printers, Graphic Arts Center, suggested that its big book would be more appropriately printed gravure (Tr. 2925-26). Others in the industry believe [] could have been realizing significant savings by using gravure (Tr. 916, 2025-26). [] (CX-1446-C; CX-1452-B; Tr. 5969-72).

264. Dr. Hilke presented graphs (CX-1438; CX-1439) that depict the offset bid disadvantage for the higher run lengths of [] work.

According to them, between 5 and 10 million copies, the offset bid disadvantage ranged from less than 1% to over 15%. Beyond 11 million copies, the offset cost disadvantage ranged from 10 to 22% (CX-1348-C). The buyer for [] testified that the gravure prices she received were generally lower than the offset prices (Tr. 2029).

265. Donnelley and third-party data, consistent with Dr. Hilke's testimony, show that the average run length for offset is much shorter than for gravure (CX-1108-A; *see* CX-1187-A; CX-884-A, C, I; CX-885-A; CX-886-B; CX-887-C; CX-888-G, I-K; RX-146-Z-22, Z-23; CX-128-Z-62; CX-937-A; CX-931-A, B; Tr. 3166-68, 2923, 2558).

266. According to the 1993 World Almanac, the magazines with the largest circulations are Modern Maturity, the NRTA/AARP Bulletin, Reader's Digest, TV Guide, National Geographic and Better Homes & Gardens (CX-769-B). Each of these publications has a circulation in excess of eight million copies (CX-769-B), and each uses the gravure process (Tr. 1494-95, 1564-65, 1568-70, 1653, 1660-61, 5441-42; CX-279; CX-902-Z-8-9, Z-37-381 Z-43).

267. The Spring 1989 issue of Gravure magazine reported that 10 of the 25 leading consumer magazines had circulations of 5 million copies or more, and that all 10 were reported as using the gravure process. Five other publications contained on the list (Guideposts, National Enquirer, Redbook, Playboy and Cosmopolitan) are identified as using the gravure process. Since 1989, at least one publication on the list (the Star magazine) that was previously done offset is now done gravure (F 254). All of these publications have circulations of three million copies or more (CX-933-H).

268. Donnelley criticizes Dr. Hilke's cost analyses because they are based on unwarranted alterations of Donnelley studies; however, they appear to be accurate restatements of Donnelley's own cost comparisons around the time of the acquisition; furthermore, they are simply one bit of evidence which, along with other record facts, is consistent with the claim that, gravure costs for long run print jobs are lower than offset costs (F 249-67).

269. According to Donnelley, complaint counsel's price comparisons are primarily anecdotal and do not establish divergent trends for offset and gravure (RPF 150). This is incorrect; Dr. Hilke's analysis of nine years of quarterly pricing data compiled by Donnelley provides solid evidence that gravure and offset prices are independent of each other (F 203-09).

270. To counter complaint counsel's price and cost comparisons, Dr. Hausman prepared bid comparisons from five print buyers and regression analyses of those bids (RPF 152-66).

271. I agree with complaint counsel that these comparisons do not seriously undermine their analyses because they are based, not on actual, but on hypothetical, constructed, bids (complaint counsel's reply, p. A-29) and because, as Dr. Hilke testified:

What I did was I tried to go back and look at RX-665, which was the listing of work in the core of the market which I have identified, and compare that to the work which is included in the bid data that Professor Hausman has used. What I found was that the bid data that Professor Hausman used is just about a clean miss with respect to the core of the market as I have defined it, rather than getting information from customers that were in the core.

(Tr. 5999) (*see also* Tr. 6306). Finally, any conclusion about other customers which might be drawn from this analysis, even if there were no problem with the underlying data, would be questionable because the sample was not randomly chosen (Tr. 5776-77).

272. I concede that the printers whose jobs were summarized in CX-1167 were not chosen randomly; however, the sample is much larger and I am confident, from the ample corroborating evidence presented by complaint counsel, that this analysis can be relied upon.

8. The Five Percent Test

273. Several print customers testified that they would not or might not switch from gravure to offset if the price of all gravure printing services was raised by five percent, and some stated that there is at least a five percent differential between gravure and offset prices for work that is now done gravure for them (Tr. 619-20, 745, 819, 847, 948, 1067, 1104-05, 1114, 1181-83, 1335-36, 1696-97, 1932). A representative from Penney even claimed that it would not switch its full line retail program from gravure to offset if the relative price from all gravure printers were to rise by 15% (Tr. 699-700).

9. Industry Recognition

a. Donnelley and Meredith/Burda

274. Donnelley assessments of its potential acquisition of Meredith/Burda and of other possible acquisitions computed market shares based on a gravure-only market (CX-40-D; CX-41-Z-11; CX-156-E; CX-267-F; CX-268; CX-994-G; CX-47-C; CX-282).

275. Many other documents written by Donnelley employees assume the existence of a separate market for gravure printing (CX-93-N; CX-95-M; CX-96-J-K; CX-189; CX-603-B, L; CX-57-J; CX-107-Z-46-47; CX-158-N, Z-12-13, Z-16; CX-48-G; CX-141-Z-43-A; CX-98-Z-147; CX-189; CX-264; CX-267-F, G; CX-268; CX-269-F, G; CX-270-J; CX-273; CX-272; CX-276; CX-141-Z-73; CX-279; CX-282-A-B; CX-359-N; CX-520-C; CX-539; CX-557-T; CX-560-J).

276. Donnelley's head of corporate development, Jeffrey Anderson, testified that he had never seen market share statistics aggregated to include gravure and offset capacity together (CX-139-Z-69).

277. Meredith/Burda documents also reveal that its employees often assumed the existence of a separate gravure market (*see* CX-51-E, Z-7, Z-29, Z-55; CX-52-E-G, H; CX-53-I).

278. Donnelley documents relating to capacity expansions also assumed a separate gravure market (*see, e.g.,* CX-11-Z-77; CX-21-O-R; CX-26-T; CX-63-C-D, V-W; CX-90-B, G-K).

279. Other Donnelley documents and testimony suggest that its employees and consultants considered gravure and offset separately in making business decisions or recommendations (compare CX-205-Z-113 with CX-265-D; CX-277; CX-112-Z-25-26; CX-1003-Z-13; CX-702-B; CX-51-T; CX-57-G-I; CX-59-M; CX-77-F-G; CX-90-B, G, H; CX-158-T, Z-37-38; CX-213-E-G; CX-548; CX-557-B; CX-594-E; CX-596-D; CX-597-Z-10; CX-873-A, Tr. 4028-29; *see* CX-264).

b. Excess Capacity

280. Firms have made major investments in gravure printing capability even when there has been excess offset capacity. For example, at the time that Donnelley's gravure press expansion in

Reno was being considered in November 1989, there was excess capacity in the offset presses at that facility but very little excess gravure capacity (CX-219; Tr. 3231). In fact, one of the stated objectives of the Reno gravure press plan was to "limit off-loading of gravure work to offset presses" (CX-21-Z-35).

281. In the years since the acquisition, there has been substantially greater excess capacity in the offset presses at Reno compared to the gravure presses (CX-1070-A-C; CX-1078-S, Z-1; Tr. 3233-34). At the same time, there was excess capacity in other Donnelley West Coast offset facilities (*see* CX-285-B, G).

282. In 1989, there was a shortage of available capacity at each of the three largest United States gravure printers: Donnelley, Meredith/Burda and Maxwell (now Quebecor) (Tr. 308-09, 1115-17; *see also* CX-1244-A; Tr. 4071-72). One customer who requested scheduling at Donnelley's Reno facility in 1989 was informed that Reno was "too full" (CX-91-X). Brown also was "filled to the brim" at its Franklin, Kentucky gravure facility during 1989 (Tr. 2525-26). Throughout this same period, there was substantial excess web offset capacity in the marketplace (Tr. 306, 2796, 4788-89; accord, CX-219; CX-557-B; CX-587-B; CX-604-G; Tr. 4325).

283. Quad, a gravure and offset printer, had excess capacity in its offset facilities at the time it entered the gravure business (Tr. 2367-68), and Maxwell had excess capacity in offset at the time it invested in new gravure presses (Tr. 306).

284. In recent years, there has been substantially greater excess capacity in offset as compared to gravure (CX-113-Z-28; CX-286-B; CX-287-E; CX-545-A; Tr. 306, 350, 889, 1510, 2455, 2632), and many offset facilities are being shut down due to lack of business (*see* CX-1102).

285. Since a printer with idle capacity in gravure or offset would most likely increase output on the unused assets rather than invest in the other process, investment in gravure at a time of excess offset capacity indicates, that these processes occupy separate markets (Tr. 3232-34).

c. Recognition of a Separate Offset Market

286. Donnelley's computations of offset market shares, offset capacity estimates and the growth potential of offset were done within the context of a heatset web offset marketplace or "web offset

market" only (*see, e.g.*, CX-158-S, Z-12-16; Z-37-40; CX-190-F; CX-261-I-J; CX-265-D; CX-266-A; CX-267-F; CX-270-A; CX-273-B; CX-283-A-B; CX-296; CX-483-Z-7; CX-537-N-Q; CX-547-A; CX-552-A-B; CX-560-C-E; CX-594-Z-6; CX-598-Z-4; CX-652-D).

287. For example, as far back as 1984 Donnelley referred to the "high quality web offset catalog market" in proposing an offset expansion at its Chicago facility (CX-927-T), but no mention was made of competition with gravure.

288. When Donnelley constructed a new offset facility in Danville, Kentucky, in the early 1980s, that plant was geared specifically for competing in the web offset catalog and publications market (Tr. 2606-07).

289. In 1990-91, Donnelley launched a new offset plant in Daytona, Florida (CX-993-M). Documents relating to that new facility refer to competing offset plants in Georgia (*see e.g.*, CX-537-N; CX-1091-E), but not to competing gravure plants even though Ringier operates one in Georgia (CX-507-B). Horst Fleck, division director at Donnelley's all-gravure facility in Lynchburg, testified in his deposition that the decision to construct a new offset plant in Daytona would necessarily be based on the demand for offset printing, without regard to the supply and demand for gravure printing at Lynchburg (*see* CX-120-Z-76-77-A).

290. Separate share calculations are made in Donnelley documents assessing the "offset catalog market" (*see, e.g.*, CX-556-A) and the "web offset market" (*see, e.g.*, CX-560-C-E), again without reference to gravure competition.

291. In recommending the purchase of new web offset presses for its Des Moines plant, Meredith/Burda officials in 1988 also used the term "web offset market" (CX-296).

d. Other Gravure Printers

292. Other gravure printers made the same assumption as Donnelley and Meredith/Burda--that there are separate gravure and offset markets for certain print jobs.

293. The management of Quebecor, the second largest gravure printer, views gravure and offset as separate markets (Tr. 303-05, 2607-08; CX-292) and the president of Ringier America testified that in his opinion they are two separate markets (Tr. 1472, 1499).

294. Officials of other gravure printers came to the same conclusion:

Quad Graphics:	(Tr. 2347-49, 2460)
Arcata Graphics:	(CX-1151)
Brown Printing:	(Tr. 2522, 2563-65)

295. Mr. Hodgson, who has 47 years of experience in the printing industry, testified that in his opinion gravure and offset were separate markets (Tr. 290, 306, 341).

296. Gravure printers belong to a separate trade association, the Gravure Association of America, or GAA, an organization devoted exclusively to gravure printing. The association holds annual conventions at which papers are presented that discuss gravure printing technology (Tr. 132-33; *see* CX-766; CX-1304). GAA also prints Gravure magazine (CX-933; Tr. 1644). Offset printing is represented by a separate trade association, the Printing Industries of America, or PIA (Tr. 133).

e. Offset Printers

297. [] (CX-969-A).

298. Century Graphics, another offset-only printer, withdrew from the bidding process for Caldor's insert program once it understood that the economics of Caldor's 12 to 14 million run no longer made offset an economically feasible option (*see* Tr. 1163-64). [] (CX-1153).

299. [] (*see* CX-1168-A-E).

300. Sullivan Graphics ("Sullivan"), a printer with only heatset offset and flexography presses, referred [] (CX-1169-F; Tr. 4722-23). However, when assessing its market share in heatset offset inserts, Sullivan excluded gravure printing from the calculation (CX-1169-C; Tr. 4724).

301. In representations made in its most recent SEC filing (CX-1306), Sullivan referred to competition with coldset offset for its flexography business (CX-1306-E; Tr. 4731) but did not mention any competition with gravure for its heatset offset business (CX-1306-E-G; Tr. 4730-33).

302. Other offset printers who testified at trial acknowledged the existence of a high volume publication gravure marketplace (*see* Tr. 2605, 2627, 2669-70, 2682-83, 2783, 2833).

303. Ringier views its Phoenix web offset facility as competing generally in the same market as other West Coast offset printers, and not for longer run gravure work (Tr. 1501).

304. Wayne R. Angstrom, Chief Executive Officer of St. Ives' United States operations, including an offset plant located in Hollywood, Florida, testified:

I am not a gravure printer. I'm a web offset printer. I have 32-page presses. I cannot compete against a gravure printer.

(Tr. 2603). Mr. Angstrom also concluded that if the price of all high volume gravure printing were to rise by five percent, St. Ives would not expect to gain volume as a result because the cost spread between the two processes is already too great (Tr. 2604; *see also* Tr. 2225, 2861).

305. Georg Decker of Riverside County Publishing Company, a Los Angeles area offset printer, testified that he would not expect to gain work if gravure printers on the West Coast raised prices by five percent (Tr. 2225).

306. When asked whether or not gravure and offset printing competed across the entire spectrum of printing jobs, Mr. Pope of Webworks responded:

No, we don't. We have our marketplace and they have their marketplace. We don't run into gravure very much at all. We have one account that we have been asked to quote against as far as gravure that I know of, and we don't effectively compete there so I would say no. We have our marketplace, they have theirs. We both do good.

(Tr. 2832).

307. Other offset printers testified that they do not monitor gravure prices (Tr. 2818, 2954, 4655, 4743-44).

10. Gravure and Offset Equipment Suppliers

308. When Heidelberg-Harris, [] (CX-1272-C; Tr. 4433-35).

309. Robert Brown, President of Heidelberg-Harris, was asked at his January 1993 deposition to list competitors for his N-9000 model

offset press. He listed only other offset press manufacturers, and no gravure press manufacturers (Tr. 4399-4400).

310. Mitsubishi (another offset press manufacturer) does not consider gravure press manufacturers to be its primary competitors (Tr. 2044).

11. Buyers' Preferences

311. Some print buyers have expressed a distinct preference for the gravure process (*see* CX-21-O; CX-104-Z-52; CX-109-Z-78; CX-116-Y; CX-118-Z-85), and it is generally recognized that they usually do not switch between processes for a particular printing program (Tr. 2223-24, 2648, 2797, 2954). As Howard Sullivan, the former President of Holladay-Tyler Company, expressed it, "when one has the mentality of going gravure, I think they pretty much stay there" (Tr. 2797).

312. At Donnelley's Reno plant, a facility with both offset and gravure equipment, no customer switched away from the gravure process to offset during the tenure of Gary Nesemeier, who served as its customer service group manager (CX-117-Z-6, Z-9-A).

313. Horst Fleck has been in charge of the former Meredith/Burda gravure facility in Lynchburg since 1987 (CX-120-Z-48) and has worked at the facility since 1973 (CX-120-Z-44). The longest run length job he could recall ever having lost to offset had a run length of 2.2 million (CX-120-Z-68-69-A).

314. Penney's James Sackett referred to the existence of a "high-quality rotogravure marketplace" (Tr. 675; CX-785-B). In his trial testimony, Mr. Sackett explained:

We have a \$4 billion business which is entirely dependent upon the supply of rotogravure capacity.

(Tr. 618).

315. Other customers have switched away from offset to gravure, in some cases based on the recommendations of the gravure printer (*see, e.g.*, Tr. 2050-52, 2002-03, 4704-07, 4861-62; CX-140-Z-80-81; CX-303-B). Donnelley's training manual suggests one reason for such switching: as the customer grows and requires more copies, the more likely the print program will be a good candidate for gravure (CX-633-Z-8; accord, CX-560-D).

316. A December 1989 Donnelley document discussing the "web offset insert market" stated:

Offset allows us to penetrate growing accounts that are not yet ready for gravure. Offset accounts are easily converted to gravure as they grow.

(CX-560-D).

317. In some instances, the customer has agreed, by contract, to pay a "stand-by charge" to reserve gravure capacity (*see* Tr. 1778-79, 1782; CX-102-Z-168; CX-104-Z-53-55; CX-106-Z-181; CX-109-Z-124; CX-671-P-Q; CX-902-Z-36-42; CX-993-V). Two examples of such customers are Sears (Tr. 1778-79, 1782) and Meredith Corporation, the parent company of the acquired firm (CX-902-Z-36-42).

318. Mr. Hodgson testified that customers desiring gravure printing on a continuous basis tend to reserve that capacity in advance through long-term contracts. This is generally not the case in offset (Tr. 339-41; *see also* Tr. 1509).

319. When faced with a shortage of gravure capacity to perform all scheduled work, Maxwell was unable to convince its gravure customers to have the work done on its offset presses which did have available capacity; instead, the company was forced to arrange for the work to be done by other gravure printers (Tr. 308-09).

320. When Standard Gravure's gravure plant was shut down due to a fire, its customers' work was shifted to other gravure printers, not offset printers (Tr. 310-12).

321. Once the acquisition was announced, many customers that had relied on Donnelley and Meredith/Burda as suppliers of gravure printing services sought to qualify another gravure printer as a second source, rather than considering an offset printer for the same work (*see, e.g.*, CX-155-C; CX-188-W; CX-601-B).

12. Conclusion

322. Donnelley's pretrial brief states that offset and gravure compete "across the board" for all types of printing work and that "offset is a viable substitute for gravure for virtually all jobs." Many knowledgeable industry witnesses disagree with these conclusions (Tr. 625-26, 901, 1525, 1171-71, 1801-02, 1950, 2662-64).

. . . in all honesty, I read this last night and it just seemed ridiculous to me. And I called a friend of mine in the printing industry and said, you won't believe this.

. . . I just read the table of contents to this friend of mine and he laughed. You know, are they kidding? Are you guys at Donnelley kidding when you say there isn't really a market? Because there is, folks. . . the one recurring theme they had was there was no roto market and that's ridiculous. I print roto market and I can't say it any more emphatically.

. . . that's ridiculous . . . absolutely ridiculous. Why would Donnelley want to buy a gravure plant in the first place?

(Ian Deutsch of Sterling (Tr. 963, 965)).

. . . offset and gravure compete in certain areas, and there are certain areas that your expectation is that offset would be the predominant process. There are other areas where you would expect gravure to be the predominant process.

(Edward Nytko of Ringier (Tr. 1525)).

. . . offset is offset and gravure is gravure. The requirements of the processes are different, and the economics of the processes are different.

(Ed Coleman of Sears (Tr. 1802)).

323. The testimony of these and other witnesses is supported by extensive price and cost analyses of the economics of offset vs. gravure printing and by the actions of printers and print buyers which reflect the real differences between these processes when high volume publication printing is involved.

324. Thus, I agree with complaint counsel and their expert witnesses that the relevant product market in this case is high volume publication gravure printing; however, I reject the claim that Donnelley's introduction of RX-497 conceded the existence of this market (CPF 1166), for it was offered on cross-examination only as an illustration of the witness' testimony on direct (Tr. 2811).

G. The Relevant Geographic Market

1. The United States

325. The parties agree that the United States is a relevant geographic market within which the effects of the acquisition may be measured (CPF 1175; RPF 231).

326. Because of shipping costs, duties, and time constraints, European printers cannot service print customers in the United States (Tr. 314-15, 1474, 2598, 3275, 378-80; CX-604-G), and imports from Canada and Mexico accounted for less than 0.3% of the total product printed within the United States in 1991 (compare RX-4-N with RX-4-L). Thus, the geographic market for high volume publication printing is no larger than the United States (Tr. 2998).

2. The Western States

327. There are three gravure facilities in the Western United States (those states separated from the rest of the country by the Rocky Mountains) (Tr. 3282-83). These facilities are located at Reno, Nevada and Casa Grande, Arizona (both owned by Donnelley) and San Jose, California (owned by Quebecor) (Tr. 3282-83).

328. Industry participants recognize that this situation puts Midwestern and Southwest printers at a competitive disadvantage for some print jobs. A Donnelley presentation arguing the need for expansion of Reno's gravure capacity stated:

We have an unusual competitive situation in the West since the region is insulated by distance and [the Rocky] Mountains from the rest of the country. Freight from the Midwest or Southwest puts those printers at a competitive disadvantage. Within the West, there are only two gravure insert printers, ourselves in Reno and Meredith/Burda in Casa Grande, Arizona (near Phoenix).

(CX-21-0).

329. Dr. Hilke conceded that data is lacking for a precise shipment analysis of a possible Western market, such as the Elzinga-Hogarty test (Tr. 3304, 3507, 6130). He was therefore forced to rely on anecdotal evidence of customer preference for having their gravure jobs printed on the West Coast.

330. There is no doubt that the Meredith/Burda acquisition was viewed as a competitive plus for Donnelley on the West Coast, as a BCG document suggested:

West coast pricing: Because of the Burda acquisition, only RRD will have a west coast presence among major printers. An analysis will be done to determine how RRD should price to capture the value that other printers cannot match in distribution economies on the west coast.

(CX-152-D) (*see also* CX-156-B).

331. Certain customers such as Target Stores, which uses newspaper inserts, are particularly concerned about timely printing (Tr. 1084, 1115, 1138). Use of West Coast gravure facilities for inserts satisfies this need (Tr. 1109).

332. Nevertheless, the print buyer for Target Stores-- specifically identified by Dr. Hilke as a likely target for price discrimination-- (CX-1163; Tr. 3285-87, 3310), testified that if he faced a 5% increase in gravure prices printed in the Western United States, he might consider switching the work to a printer located outside of that area (Tr. 1115). Indeed, Quebecor printed Target's western inserts at its facility in Memphis, Tennessee, and Target's inserts for the states of Washington and Oregon are currently printed by Donnelley in the Midwest (Tr. 1111, 1126-27). [] (RX-263-Z-30, data points 10412-21).

333. Furthermore, Dr. Hausman pointed out that shipment data gathered by complaint counsel and testimony of print buyers show that a substantial amount of gravure publication printing is done in plants located outside of the Western United States and is shipped into that area (Tr. 5402-04)

PROPORTION OF PRINTING VOLUME
SHIPPED INTO WESTERN REGION
FROM OUTSIDE WESTERN REGION

PRINTER	LOCATION	1989 PORTION SHIPPED WEST	1Q 1990 PORTION SOURCE SHIPPED WEST
ARCATA (RX-85)	Buffalo, NY	[]	[]
BROWN (RX-87)	Franklin, KY	[]	[] (Full Year)
QUEBECOR (RX-89)	Dallas, TX	[]	[]
QUEBECOR (RX-90- RX-279)	Memphis, TN	[]	[] (Full Year)
QUEBECOR (RX-279)	Dickson, TN	[]	[] (Full Year)
QUAD (RX-88)	Lomira, WI	[]	[]

PUBLICATIONS PRINTED GRAVURE OUTSIDE WESTERN REGION
AND DISTRIBUTED INTO WESTERN REGION

PRINT BUYER	PRODUCT	PRINTING LOCATION	SOURCE
[]	Inserts	Corinth, MS Franklin, KY	Henry Tr. 719
[]	Inserts	Midwest	Watts. Tr. 2874-75
[]	Inserts	Mattoon, IL	Gordon Tr. 3970-73
[]	Inserts	Midwest Louisville, KY	Watts Tr. 2874-75 RX-263-Z-31
[]	Inserts	[] Memphis, TN Midwest	RX-263-Z-62 Steen Tr. 1111, 1126- 1127
[]	Inserts	[]	RX-263-Z-41
[]	Inserts Catalogs Catalogs	[]	RX-263-Z-62 RX-263-Z-42 RX-263-Z-45
[]	Catalogs	[]	RX-263-Z-41
[]	Catalogs	Corinth, MS	Deutsch Tr. 973-974
[]	Catalogs	Spartanburg, SC Lomira, WI Corinth, MS	Haight Tr. 1373 RX-263-Z-41 RX-263-Z-29
[]	Catalogs	[]	RX-263-Z-29
[]	Catalogs Catalogs Catalogs	[]	Glaser Tr. 2132, 2143 Glaser Tr. 2147
[]	Magazine	[]	RX-263-S
[]	Magazine	[]	RX-263-Z-3
[]	Magazine	[]	RX-263-Z-4
[]	Magazine	[]	RX-263-Z-5

334. Given the substantial number of print buyers who have their publications printed outside of the Western Region and distributed into the Western Region, Dr. Hausman stated that it is likely that other print buyers, faced with a price increase for Western Region gravure printing, could turn to printers outside of the Western Region to defeat the price increase and receive distribution of their publications in a timely fashion (Tr. 5404-05).

335. Dr. Hilke dismissed shipment data by national publications as "distortions" which have nothing to do with competition for work, such as inserts, distributed on the West Coast (Tr. 6131), but his dismissal of this data ignores his own claim that the product market --which must be considered in conjunction with the geographic market--includes such publications.

336. It may be that for particular print customers who distribute their product--such as inserts--on the West Coast, the only feasible supplier is a printer located there; that does not, however, say anything about the geographic market for all high volume publications (inserts, catalogs and magazines)--the market which complaint counsel propose.

337. Thus, I find that no West Coast market exists for high volume publication gravure printing.

H. Market Structure

1. Competition and Product Quality

a. Meredith/Burda

338. A Donnelley document dated June 3, 1988 and addressed to Carl Doty, its current president, observed that:

Meredith/Burda is recognized by many to have superior gravure quality and technical capabilities which approach those of Donnelley.

Donnelley employees viewed Meredith/Burda as a major, if not their major, competitor (CX-21-P; CX-53-N; CX-69-N; CX-91-Z-78; CX-387; CX-66-O).

339. Many gravure printers and customers testifying in this proceeding ranked Donnelley and Meredith/Burda as the highest quality gravure printers, and viewed them as vigorous competitors prior to the acquisition (Tr. 327-28, 676-77, 704-06, 821-23, 881-82, 891-92, 969-60, 1029, 1034, 1110-11, 1142-43, 1166-67, 1289, 1358-59, 1437-39, 1507-08, 1579-80, 2008-10, 2628, 4880-81, 4288-89).

b. Other Gravure Printers

340. Some industry participants were not convinced that other gravure printers produced as high quality work as Donnelley and Meredith/Burda:

1) Quebecor

341. Robert Wyker, Chairman of AGA, testified that:

Quebecor has a lot of equipment but most of it is in the newspaper end of the field. They have one plant that we feel has good enough quality to work with and we have worked with that one plant.

(Tr. 883).

342. The print buyer for Penney's catalog testified that "[w]e regard Quebecor as having quality skills that are below the standards to which we aspire" (Tr. 587). (*See also* Tr. 1079-81, 1286, 1591, 2034, 2159, 4868-70, 4880-81, 4906; CX-21-P.)

2) Ringier America

343. According to a 1989 Donnelley profile of Ringier, its weaknesses were that it had gravure plants only in the Southeast, which limited distribution nationally for bulk shipments; that it was perceived by retail customers to be weak in preliminary; that it had few wide webs in gravure; and that it had a small, somewhat ineffective sales force (CX-469-D).

344. Since Penney has only one gravure press available to it at Ringier, the amount of business that can be given to it is "extremely limited" (Tr. 726). It would take two to three years for Penney to satisfy itself that Ringier America could print some of the general catalog and at least five years for Ringier to be a substantial contributor (Tr. 594-95).

345. Cory Owens of Lands End testified that, in evaluating secondary printing sources, he did not look at Ringier because he doubted the company could satisfy its quality expectations (Tr. 1287).

3) Arcata Graphics

346. Donnelley's president, Carl Doty, believed that [] (CX-102-Z-204).

347. Mr. Sackett of Penney's catalog division has never considered doing business with Arcata and would rate it a notch below Quebecor (Tr. 590); and, [] (Tr. 2023).

348. [] (CX-632-B).

4) World Color Press

349. World Color is primarily a magazine printer and provides only limited competition in catalogs and inserts (*see* CX-1060-L). Mr. Henry of Penney believes that World Color's work is inconsistent: "they run hot and cold" (Tr. 703).

5) Quad Graphics

350. A 1989-90 Donnelley document concluded that Quad's weaknesses were that it was not known as a top quality catalog printer, that it was inexperienced in retail inserts, was ineffective or slow in responding to customer inquiries, had limited retail work capacity, particularly in the West, which hindered distribution to newspapers, and that it had a small sales force which was not able to cover the entire market (CX-470-C).

351. Penney's catalog production manager testified:

They (Quad) do not seem to have the likely prospect of expansion with their base of equipment . . . Quad is new to the gravure scene. Their base of equipment, as I understand it, is limited.

(Tr. 588).

352. Ian Deutsch of Sterling, Incorporated believes that Quad is not a gravure printer of the quality of Donnelley, Meredith/Burda or Ringier (Tr. 994).

353. [] (Tr. 1592).

6) Standard Gravure

354. Standard Gravure, based in Louisville, KY at the time of the acquisition, has left the gravure business (Tr. 2475).

7) Brown Printing Company

355. Cory Owens of Lands End, in evaluating secondary printing sources, did not look at Brown because the company's gravure printing capability was too limited (Tr. 1285).

356. [] (Tr. 2023).

357. Tom Engdahl, general manager at Brown's gravure plant in Franklin, KY, testified that Brown's lack of alternative gravure capacity outside the Franklin plant is a competitive disadvantage and that customers have expressed concerns about this problem (Tr. 2563-64).

2. Gravure Price and Capacity Trends

358. Several industry members testified that prices for gravure printing have been declining since at least 1985, before the recession (Tr. 2573, 4299, 1509, 4004-05) and that there is and has been excess gravure capacity (Tr. 888, 4700, 4790, 1510, 1614, 1860).

359. One print buyer described conditions as a "buyer's market" (Tr. 888). Another printer, with 25 years experience in both gravure and offset printing, testified that he has "yet to see prices go up -- ever" (Tr. 4762). The print buyer for Service Merchandise characterized competitive conditions in the printing industry as follows:

I don't know of any other industry where buyers have been in a buyer's market so consistently so long. The print market is a dog fight and what's happening to it is the printer can't control necessarily the price of ink or the price of paper and he sure as hell can't control the price of postage. So what has he got left to compete with? He competes with his services under the general heading of manufacturing . . . They've been cutting each others' throats for a decade. . .

(Tr. 4298-99).

360. At the same time, many firms are cutting back or completely canceling their long-run, high-volume printing programs. The decision of Sears to cancel their long-standing catalog program is the

most recent example of this trend, and forced Donnelley to close down an entire gravure facility that was almost wholly dedicated to production of Sears' catalogs (Tr. 4591). A few years ago, Montgomery Ward also cancelled its big book catalog program (Tr. 1541).

361. Also, catalog firms and retailers have been shortening run lengths of their publications to reduce marketing and postage expenses, and to target their customers more effectively. This trend is expected by Mr. Wyker, a catalog consultant, to continue in the future (Tr. 908). Even before the acquisition, Meredith/Burda's President noted: "The trend towards shorter print order continues. The potential customer base is shrinking through merger and acquisition. Demographic inserts prevail over mass market penetration" (RX-96-B).

362. Firms such as Bradlee's, Ames, Hill's, Best Stores, The Company Store, and Lillian Vernon were identified during the hearing as having cut back on their print programs (Tr. 4006, 4008, 4010, 4929, 4930; RX-59-K). Moreover, several retail chains and catalogers have consolidated or gone into bankruptcy in recent years, further reducing the number of print buyers (Tr. 5425-26).

3. The Size of the "Core" Market

363. After analyzing the buyers whose printing programs placed them at one time or another in the high volume gravure publication market, Dr. Hausman found that, while there were 36 customers in the "core" market in 1990, there may have been, by the time of trial, only two remaining in that market. The following table describes this "migration" (Tr. 5446-48; RX-665-A-D):

IN THE MATTER OF

NATURE'S BOUNTY, INC., ET AL.

CONSENT ORDER, ETC., IN REGARD TO ALLEGED VIOLATION OF
SECS. 5 AND 12 OF THE FEDERAL TRADE COMMISSION ACT*Docket C-3593. Complaint, July 21, 1995--Decision, July 21, 1995*

This consent order requires, among other things, the New York-based company and two of its wholly-owned subsidiaries to pay \$250,000 to the Commission for possible use for consumer redress, and requires them to have substantiation for specific health-related representations they make in advertising and promoting any product in the future.

Appearances

For the Commission: *Justin Dingfelder, Peter Metrinko, Rose Toufexis and Jonathan Cowen.*

For the respondents: *Michael F. Brockmeyer, Piper & Marbury, Baltimore, MD.*

COMPLAINT

The Federal Trade Commission, having reason to believe that Nature's Bounty, Inc., a corporation, Puritan's Pride, Inc., a corporation, and Vitamin World, Inc., a corporation, ("respondents"), have violated Sections 5(a) and 12 of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. 45(a) and 52, and it appearing to the Commission that a proceeding by it in respect thereof would be in the public interest, alleges:

PARAGRAPH 1. A. Respondent Nature's Bounty, Inc. ("Nature's Bounty"), is a Delaware corporation, with its office and principal place of business at 90 Orville Dr., Bohemia, NY.

B. Respondent Puritan's Pride, Inc. ("Puritan's Pride"), is a Delaware corporation with its office and principal place of business at 90 Orville Dr., Bohemia, NY. Puritan's Pride is a wholly-owned subsidiary of Nature's Bounty.

C. Respondent Vitamin World, Inc. ("Vitamin World"), is a Delaware corporation with its office and principal place of business