

**C I N T R A F O R**

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**AN EXAMINATION OF THE  
UNITED STATES PULP AND PAPER INDUSTRY**

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# **CINTRAFOR WORKING PAPER 54**

## **AN EXAMINATION OF THE UNITED STATES PULP AND PAPER INDUSTRY**

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## INTRODUCTION

The pulp and paper industry ended its four-year slump and enjoyed record-breaking profits in 1994. The unprecedented magnitude and speed of this recovery was due to the timely confluence of many factors: improving economies in Europe and North America resulted in a large increase in consumption of pulp and associated products such as newsprint and packaging; imports of European pulp and paper products into the US market leveled off in response to greater demand in European markets; substantial amounts of marginal capacity were removed from the North American market; international fiber shortages occurred; recyclable materials like old newsprint and corrugated containers were in short supply; weak US and Canadian dollars made North American pulp and paper exports more price-competitive in the international marketplace, thus driving up demand; and low customer inventories resulted in demand exceeding supply. The outlook remains rosy, as only limited additional capacity has been added or is scheduled to come on line in the next couple of years.

This project was undertaken to obtain an overview of the United States pulp and paper industry. First, all publicly-traded pulp and paper firms were examined in terms of principal products sold. The second objective was to identify the extent of international operations by these firms, using as a proxy percentage of annual sales from exports and the degree and number of international manufacturing plants, sales offices, and subsidiaries. The third objective was to evaluate the performance of the firms and to create an industry-based financial performance ranking based on net sales, return on equity, and earnings per share.

## METHODOLOGY

### Sample of Firms

All US pulp and paper manufacturers were identified using the 1995 edition of the *International Pulp and Paper Directory* and the 1995 *Lockwood-Post Directory of the Pulp and Paper and*

*Allied Trades*. As the focus of the study was to examine publicly-traded *versus* privately-owned companies, Standard and Poor's *Million Dollar Directory* was used to determine which of the firms were publicly traded. The *Million Dollar Directory* lists all US manufacturing firms with annual sales above one million dollars and classifies them by both US standard industrial classification code and the firm's ownership structure. Forty pulp and paper firms were examined. Each of these firms was contacted for a 1994 annual report; 39 annual reports were received. The one exception was Procter and Gamble, which did not respond to three requests for an annual report.

The most recent issues of *Value Line Research Reports* and Standard and Poor's *Corporate Reports* were compiled for each firm, whenever available. This information was used to complement the financial data provided by the annual reports. Performance measures for Procter & Gamble Co. were based exclusively on the information provided by *Value Line* and Standard and Poor's reports.

### **Variables Examined**

Each firm was examined in terms of principal products sold, the extent to which the firm engages in international operations, and financial performance. Performance measures used to describe each firm's financial success during 1994 were net sales (total sales revenue minus discounts, returns, and allowances), return on total shareholders' equity (ratio of net profit to total shareholder equity) (ROE), and earnings per share (ratio of net profit to the number of shares of common stock outstanding) (EPS).

Many US pulp and paper firms have solid wood products divisions or other operations unrelated to pulp and paper production. Net sales are for those revenues arising from pulp and paper operations as well as for the entire firm, if possible. That is, for firms having operations in addition to pulp and paper manufacturing, ROE and EPS were calculate based on the firms' financial success as a whole.

**TABLE 1. Categorization of US Pulp and Paper Firms According to Principal Products**

<b>Consumer products</b> (for example, tissue, towels, hygiene products, napkins, cups, plates)	
Chesapeake	James River
Kimberly Clark	Mosinee Paper
Pope & Talbot	Procter & Gamble
Scott Paper	
<b>Market pulp</b>	
Pope & Talbot	Potlatch
Rayonier	Weyerhaeuser
Willamette Industries	
<b>Newsprint</b>	
Bowater	Media General
Jefferson Smurfit	
<b>Paperboard and packaging</b>	
Boise Cascade	Willamette Industries
Consolidated Papers	Chesapeake
Gaylord Container	Federal Paper Board
Greif Bros.	Georgia Pacific
Jefferson Smurfit	International Paper
Mead	Longview Fibre
Tenneco (Packaging Corporation of America)	Riverwood International
Potlatch	Stone Container
St. Joe Paper	Union Camp
Temple Island	Weyerhaeuser
Westwaco	
<b>Printing, writing, kraft, and specialty papers</b>	
Badger Paper Mills	Boise Cascade
Bowater	Champion International
Chesapeake	Consolidated Papers
Georgia Pacific	P. H. Glatfelter
International Paper	Mead
Mosinee Paper	Potlatch
Union Camp	Wausau Paper Mills
Weyerhaeuser	Willamette Industries
<b>Value-added/secondary pulp &amp; paper products</b>	
Caraustar Industries	Dexter Corporation
Federal Paper Board	Greif Bros.
International Paper	Lydall
Mead	Mosinee Paper
Riverwood International	Tenneco (Packaging Corporation of America)
Wausau Paper Mills	Westwaco

## FINDINGS

### **Principal Pulp And Paper Products Manufactured By US Pulp And Paper Firms**

Table 1 shows a categorization of the 40 publicly-traded US pulp and paper firms according to their principal products, based on sales of those products and product information provided in the annual reports. The product groupings are: market pulp, newsprint, printing and writing papers, kraft and specialty papers, paperboard and packaging, value-added/secondary pulp and paper products, and consumer products (*e.g.*, tissue, towels, hygiene products). A particular firm may belong to more than one group if it has several major products of substantial market share.

Many US pulp and paper manufacturers concentrate on manufacturing pulp, paper, and paperboard commodities. Sixteen and 21 firms, respectively, report that the majority of their sales revenue comes from marketing printing and writing papers and paperboard and packaging. Only 14 firms produce primarily value-added products. An example is Riverwood International, that produces folding cartons for the beverage, food, and consumer products markets, such as for PepsiCo and Coca-Cola.

Only four firms (James River, Kimberly Clark, Procter & Gamble and Scott Paper) focus on consumer products. Both James River and Scott Paper are planning long-term business strategies to increase their market share. For example, last year James River expanded its European business by acquiring a larger share of Jamont, a European consumer products company. Additionally, the company plans to divest itself of the communication papers business that has been responsible for poor earnings. Scott Paper went through a major restructuring last year that included eliminating its printing and writing papers subsidiary (S. D. Warren) and selling other assets unrelated to the core business. In the future, all sales will come from consumer products.

## **International Operations**

Tables 2 and 3 group US pulp and paper firms into two groups, those having overseas manufacturing operations and those that lack overseas manufacturing plants or subsidiaries but export at least part of their production. The tables list the firms' overseas operations as well as export destinations and the proportion of their business coming from exports.

The pulp and paper industry seems internationally oriented. Ten of the 40 firms included in this examination can be considered to be truly global: Procter & Gamble, Sonoco Products, Kimberly Clark, Scott Paper, Stone Container, Sealed Air, Riverwood International, Packaging Corporation of America, James River, and International Paper. All have manufacturing plants worldwide and a substantial part of their business is conducted outside the US. For example, Sonoco Products has 250 locations around the globe; Kimberly Clark and Scott Paper have operations in 23 and 22 countries, respectively. In general, most of pulp and paper firms have concentrated international operations in Europe, but recently some have begun to direct attention toward the growing markets of Latin America and the Pacific Rim. Japan is already an important market for US pulp and paper firms and many are also interested in penetrating the China market. Last year, for instance, Scott Paper signed an agreement with Shanghai Paper Company. It is now the first international tissue company located in China. Several US pulp and paper firms have very limited or nonexistent overseas manufacturing operations, but the companies receive a large share of sales from exports. Examples of such firms are Rayonier, Bowater, Westwaco, Champion International, Consolidated Papers and Wausau Paper Mills. Half of Rayonier's sales come from the products it exports to 72 countries. Westwaco exports to 69 countries and Bowater markets its products worldwide; however, these firms did not specify their export destinations. Both Champion International and Consolidated Papers market their products in Mexico and Asia, and Consolidated Papers also exports to Central and South America.



**TABLE 2. Companies with Overseas Manufacturing Operations/Subsidiaries  
in decreasing order of international involvement)**

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Procter & Gamble	Global
Sonoco Products	Global, 250 locations around the world in Europe, Latin America and the Pacific Rim
Kimberly Clark	Global, manufacturing in 23 foreign countries
Scott Paper	Global, operations in 22 countries
Stone Container	Global, manufacturing operations in 17 foreign countries
Sealed Air	Global, manufacturing in several European countries, Mexico, Australia, and New Zealand, and Pacific Rim
Riverwood International	Global, manufacturing in 13 foreign countries
Tenneco/Packaging Corporation of America	Global, manufacturing in 13 foreign countries
James River	Global, manufacturing in 12 foreign countries
International Paper	Global, manufacturing in 7 foreign countries, sales offices in 2 countries
Westwaco	Canada, South America
Union Camp	Ireland, Spain, Chile, Canary Island, Argentina, United Kingdom
Mead	Canada, Spain, Argentina, Chile, Poland
Dexter Corporation	France, United Kingdom, Canada
Jefferson Smurfit	France, Mexico, Austria
Temple-Inland	Mexico, Chile, Argentina
Champion International	Manufacturing in Brazil and Canada, sales office in Mexico
P. H. Glatfelter	Canada, Australia
Federal Paper Board	United Kingdom
Georgia Pacific	Canada
Louisiana Pacific	Canada
Rayonier	New Zealand
Weyerhaeuser	Canada

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**TABLE 3. Companies that Export**

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Tenneco/Packaging Corporation of America	67% of markets outside US
Rayonier	Exports to 72 countries, half of sales from exports, main market for pulp is in US and Canada
International Paper	Exports to 129 countries, 21% of sales come from exports
Westwaco	Exports to 69 countries
Bowater	Products marketed worldwide
Champion International	Mexico, Europe, Asia
Consolidated Papers	Central & South America, Mexico, Pacific Rim
Wausau Paper Mills	Pacific Rim, Europe, Mexico, Central and South America
Georgia Pacific	Europe, Asia, Latin America
Dexter Corporation	Europe, Pacific Rim
Federal Paper Board	Europe, Asia
Chesapeake	Europe
P. H. Glatfelter	Export markets unknown, 9% of sales come from exports
Louisiana Pacific	Export market unknown, 5.2% of sales from exports
Mead	Japan
Mosinee Paper	New Zealand, Mexico
Weyerhaeuser	Pacific Rim

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## **Financial Performance of US Pulp and Paper Firms**

For the four years preceding 1994, the pulp and paper industry experienced its worst downturn since the Great Depression. Cyclical oversupply and a worldwide recessionary environment resulted in decreased demand that caused a decline in prices and profits. As a result, less financially-secure firms went out of business or reported fairly negative profits for several years. However, beginning in the second half of 1994, the market turned around. Several price increases during 1994 resulted in an approximate doubling of pulp prices. This large increase in price was attributable to the confluence of a number of factors: improving economies in Europe and North America; leveling off of European pulp and paper product imports into the US market; removal of substantial amounts of marginal capacity from the North American market; international fiber shortages; short supply of recyclable materials like old newsprint and corrugated containers; weak US and Canadian dollars, which made North American pulp and paper exports more price-competitive, driving up demand; low customer inventories resulting in demand exceeding supply; and only limited additional pulp and paper capacity added or scheduled to come on line in the near future. The 1994 market turnaround clearly left a favorable mark on the financial performance of US pulp and paper firms.

**Net sales.** Based on 1994 net sales, Table 4 provides a ranking of US pulp and paper manufacturers based on net sales. The ten largest are, in descending order, International Paper, Kimberly Clark, Stone Container, James River, Georgia Pacific, Mead, Champion International, Weyerhaeuser, Scott Paper, and Jefferson Smurfit. Procter & Gamble had the highest net sales overall in 1994 with \$30.1 billion. However, this figure can not be compared directly with the sales of the other firms because it is not known what proportion of Procter & Gamble's total sales is comprised of pulp and paper products.

**Return on equity.** Of the forty publicly-traded US pulp and paper firms, seven had a return on total shareholders' equity in 1994 exceeding 20%--an impressive figure in any year (Table 5).

**TABLE 4. 1994 Net Sales**

<b>Name of firm</b>	<b>Total sales from pulp and paper products (in millions of dollars)</b>
Procter & Gamble (P&G Paper Products)	30296
International Paper	13251
Kimberly Clark	7364
Stone Container	5749
James River	5417
Georgia Pacific	5138
Mead	4558
Champion International	4217
Weyerhaeuser	4066
Scott Paper	3581
Jefferson Smurfit (Smurfit Newsprint)	3233
Union Camp	2479
Westwaco	2363
Sonoco Products	2300
Tenneco (Packaging Corporation of America)	2184
Willamette Industries	1886
Boise Cascade	1795
Temple-Inland (Inland Container)	1737
Bowater	1359
Federal Paper Board	1319
Riverwood International	1118
Consolidated Papers	1028
Chesapeake	991
Potlatch	918
Gaylord Container	784
Longview Fiber	593
Greif Bros. (Greif Board/Virginia Fibre)	584
Sealed Air	519
Rayonier	502
P. H. Glatfelter	478
Caraustar Industries (Carotell Paper Board )	431
Wausau Paper Mills	427
St. Joe Paper	387
Pope & Talbot	356
Mosinee Paper (Bay West Paper Corporation)	267
Dexter Corp.	259
Louisiana-Pacific	220
Lydall	213
Media General (Garden State Paper, Southeast Paper Manufacturing)	102
Badger Paper Mills	74

**TABLE 5. 1994 Return on Total Shareholders' Equity (ROE)**

<b>Name of the firm</b>	<b>ROE (%)</b>
Sealed Air	287.0
Media General (Garden State Paper, Southeast Paper Manufacturing)	35.0
Caraustar Industries (Carotell Paper Board)	34.7
Mead	32.0
Procter & Gamble (P&G Paper Products)	20.8
Lydall	20.3
Wausau Paper Mills	20.0
Louisiana-Pacific	18.8
Sonoco Products	15.6
Tenneco (Packaging Corporation of America)	14.1
Mosinee Paper (Bay West Paper Company)	13.8
Weyerhaeuser	13.7
Willamette Industries	12.8
Scott Paper	12.0
Georgia Pacific	11.8
Dexter Corp.	11.0
Rayonier	10.7
Greif Bros. (Greif Board/Virginia Fibre)	10.3
Chesapeake	9.6
Consolidated Papers	8.9
Longview Fiber	8.3
Kimberly Clark	8.0
Federal Paper Board	7.8
Temple-Inland (Inland Container)	7.3
Pope & Talbot	7.0
Union Camp	6.2
Westwaco	5.6
International Paper	5.5
Potlatch	5.3
St. Joe Paper	4.5
Champion International	2.1
Riverwood International	0.5
Bowater	-0.5
James River	-2.7
Boise Cascade	-4.6
Badger Paper Mills	-13.2
Stone Container	-33.4
P. H. Glatfelter	-40.0
*Gaylord Container	-10.7
*Jefferson Smurfit (Smurfit Newsprint)	-1.3

\*Because these companies had no earnings, it would be inappropriate to use ROE as a measure of performance as a proxy for equity. Return on sales was deemed a better measure of financial performance for these two firms.

These were Sealed Air, Media General, Caraustar Industries, Mead, Procter & Gamble, Lydall, and Wausau Paper Mills. Of these seven firms only Mead, Caraustar Industries, and Wausau Paper Mills are mainly pulp and paper products manufacturers. For the other four top-ranking firms, either pulp and paper products make up a small portion of total sales, or pulp and paper is used as a raw material in production of value-added products. For instance, Sealed Air utilizes plastics, foam, and other materials in addition to paper to produce a variety of packaging products for industrial uses and for food packaging applications. Media General's main business is communications, including TV broadcasting, and it also owns several newspapers and two paper mills that produce newsprint for the company's internal needs. Procter & Gamble has a paper division that produces pulp, tissue, and hygiene products, but the company is more widely known for consumer products.

An additional 11 firms reported a return on equity ranging from 10.0 to 18.8%. These firms were Louisiana Pacific, Sonoco Products, Tenneco, Mosinee Paper, Weyerhaeuser, Willamette Industries, Scott Paper, Georgia Pacific, Dexter Corporation, Rayonier, and Greif Bros. Corporation. Many of the firms in this group are diversified forest products firms, like Louisiana Pacific, Weyerhaeuser, Willamette Industries, Georgia Pacific, and Rayonier, that manufacture solid wood products like lumber, plywood, and building panels in addition to pulp and paper products. The sales of these products are often counter-cyclical to pulp and paper, which means that financial results of these firms are typically more stable compared to the firms that concentrate on pulp and paper products exclusively.

All of the seven pulp and paper firms that had a return on equity of 10% or higher (Mead, Caraustar, Wausau Paper Mills, Socono Products, Mosinee Paper, Scott Paper, Greif Bros.) had one thing in common, in that they can be described as producers of paper and paperboard specialties or have integrated paper and paperboard production and converting operations. Such firms have selected niche markets that appear to be less susceptible to economic cycles. Sonoco Products is a prime example: as a global manufacturer of packaging products, it has integrated

papermaking and converting operations so that products cover a wide range of consumer and industrial packaging needs including paperboard tubes, cones, and composite cans. It is the number one producer in almost all of the markets it serves, and its market share is large. Last year Sonoco Products had an impressive return on equity of 18.8%.

Six firms had a negative return on equity last year. These were Bowater, James River, Boise Cascade, Badger Paper Mills, Stone Container, and P. H. Glatfelter. All except Boise Cascade are purely pulp and paper manufacturers. In contrast to the specialized pulp and paper firms discussed above, most of these firms produce commodity products like newsprint, printing and writing papers, paperboard, kraft paper and corrugated containers. James River is an exception: its production consists 100% of consumer products like tissue, towels, and hygiene products. The printing and writing papers division was divested in 1994, but that division's losses still had a negative effect on the year's performance. Further, the company relies on outside raw material for its production. When pulp prices increased by 50% in 1994, the company was unable to increase the prices for its own products.

Gaylord Container and Jefferson Smurfit both reported shareholders' deficits as well as net losses in 1994. Gaylord Container manufactures containerboard, unbleached kraftpaper, corrugated containers, multiwall bags, grocery bags and sacks. Improving market conditions for its major products helped to increase sales by 7% from 1993; however, the company was severely affected by the cyclical nature of the demand for its products. As a result, it filed for Chapter 11 protection in 1992. It plans to continue in business and has initiated a five-year plan to reorganize operations. Jefferson Smurfit is a major producer of paperboard and packaging products, especially from recycled materials. It has experienced at least three consecutive bad years and went public last year to restructure its finances and cut its debt burden. During the first year the firm produced a deficit of retained earnings of \$1.9 billion, which lead to a total shareholders' deficit of \$730 million. Because these companies had no earnings, it would be inappropriate to use return on equity as a measure of performance. Return on sales was deemed

a better measure of financial performance. The return on sales was negative 10.7% for Gaylord Container and 1.3% for Jefferson Smurfit.

**Earnings per share.** The third measure used to describe financial performance of US pulp and paper firms was earnings per common share. The 10 firms with the highest earnings per share were Mead, Media General, Georgia Pacific, Kimberly Clark, Willamette Industries, Louisiana Pacific, Procter & Gamble, Weyerhaeuser, International Paper, and Scott Paper (Table 6). Each of these firms reported earnings per share equal to or greater than \$2.81. Mead had an exceptionally high value, \$11.21 earnings per share, but it arose in large measure from extraordinary gains including the sale of the Mead Data Central Division. According to the company's president, normalized earnings from operations would have been \$2.90 per share, dropping Mead from number one to number eight in earnings per share value. The same firms that had negative returns from equity also reported negative earnings per common share. Boise Cascade had the most negative earnings per share with -\$3.08.



**TABLE 6. 1994 Earnings Per Share (EPS)**

<b>Name of the firm</b>	<b>EPS (\$)</b>
Mead	11.21
Media General (Garden State Paper, Southeast Paper Manufacturing)	4.45
Georgia Pacific	3.48
Kimberly Clark	3.33
Willamette Industries	3.23
Louisiana-Pacific	3.15
Procter & Gamble (P&G Paper Products)	3.09
Weyerhaeuser	2.86
International Paper	2.86
Scott Paper	2.81
Greif Bros. (Greif Board/Virginia Fibre)	2.77
Stone Container	2.46
Rayonier	2.36
Temple-Inland (Inland Container)	2.35
Tenneco (Packaging Corporation of America)	2.20
Consolidated Papers	1.97
Lydall	1.73
Mosinee Paper (Bay West Paper Corporation)	1.71
Potlatch	1.68
Union Camp	1.62
Wausau Paper Mills	1.60
Sealed Air	1.59
Chesapeake	1.58
Dexter Corp.	1.56
Westwaco	1.55
Federal Paper Board	1.52
Sonoco Products	1.40
Caraustar Industries (Carotell Paper Board)	1.38
St. Joe Paper	1.38
Pope & Talbot	1.21
Longview Fiber	0.64
Champion International	0.38
Riverwood International	0.04
Jefferson Smurfit (Jefferson Newsprint)	- 0.43
Bowater	- 0.59
James River	- 0.72
Badger Paper Mills	- 1.29
Gaylord Container	- 1.57
P. H. Glatfelter	- 2.67
Boise Cascade	- 3.08