FINANCIAL PERFORMANCE, CAPITAL EXPENDITURES, AND INTERNATIONAL ACTIVITIES OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY AT MID-DECADE

AMY BJORKMAN, DOROTHY PAUN, AND CHAVANDA JACOBS-YOUNG

THE 1990'S HAVE PRODUCED SOME OF THE HISTORICALLY BEST AND WORST RETURNS IN THE NORTH AMERICAN PAPER INDUSTRY.

THE 1990S HAVE BEEN TURBULENT TIMES FOR THE pulp and paper industry. Within a period of approximately 18 months, the North American pulp and paper industry endured its historically best and worst financial returns. Global recession and cyclical oversupply at the dawn of the decade plunged the pulp and paper industry into a severe and prolonged market decline. Stagnant demand and depressed prices led many firms to remove marginal production or merge with larger companies.

In 1994 the market changed dramatically. As economies throughout the world recovered and paper inventories grew increasingly thin, the pulp and paper industry began a steep but rapid climb out of financial abyss. The year 1994 ushered in several price increases, and the momentum continued until 1995, when pulp prices hit a record high of nearly US$ 1000 per metric ton for northern bleached softwood kraft. The price of newsprint increased to US$ 750 per metric ton, and average prices for containerboard and communication papers during this period were respectively 40% and 50% higher than 1994 averages.

Feeding on the momentum of 1994's recovery, the first half of 1995 experienced steady growth in demand and unprecedented prices for pulp and paper products. In fact, markets were so robust during the first half of 1995 that companies were able to post record sales and earnings for the entire year despite declining prices during the third and fourth quarters. Fourth quarter 1995, however, marked the beginning of another cyclical decline in prices and a resultant negative impact on the financial performances of pulp and paper companies.

The record sales and earnings experienced in 1995 were contrasted in 1996 by declining sales, profits, and earnings per share, due to production overcapacity and ever-increasing inventories. Pulp prices deteriorated from the high of US$ 1000 to US$ 500 per ton in the first quarter of 1996. Newsprint prices were similarly fated and underwent adjustment from the high of US$ 750 to US$ 500 per ton, due to increasing inventories and successful recycling efforts.

Given such dismaying price declines for 1996, many paper manufacturers voluntarily reduced production in early 1997 in hopes of reducing inventory levels. According

MARKET PULP

United States	Canada
Boise Cascade	Avenor
Bowater	Canfor
Buckeye Cellulose	Cascades
Champion	Crestbrook Forest
Chesapeake	Doman Industries
Consolidated Paper	Donohue
Georgia-Pacific	Fletcher Challenge
International Paper	Harmac Pacific
Louisiana-Pacific	MacMillan Bloedel
Potlatch	Noranda Forest
Rayonier	Repap Enterprises
Stone Container	Slocan Forest Products
Weyerhaeuser	Stone-Consolidated
Willamette Industries	Tembec
	Weldwood of Canada
	West Fraser Timber
	George Weston

NEWSPRINT

United States	Canada
Bowater	Abitibi-Price
Champion International	Alliance Forest Products
Jefferson Smurfit	Avenor
Kimberly-Clark	Canfor
Media General	Donohue
Weyerhaeuser	Fletcher Challenger
	MacMillan Bloedel
	Slocan Forest Products
	Stone-Consolidated
	Tembec
	West Fraser Timber

PAPERBOARD AND PACKAGING

United States		Canada
Bemis Company	Lydall	Cascades
Boise Cascade	Mead	Domtar
Caraustar Industries	Potlatch	MacMillan Bloedel
Champion International	Republic Group	St. Laurent Paperboard
Chesapeake	Rock-Tenn	West Fraser Timber
Consolidated Papers	Sonoco Products	
Dexter Inc.	Specialty Paperboard	
Gaylord Container	Stone Container	
Georgia-Pacific	Temple-Inland	
Greif Brothers	Tenneco	
International Paper	Union Camp	
James River	Westvaco	
Jefferson Smurfit	Weyerhaeuser	
Longview Fibre	Willamette Industries	

PRINTING AND WRITING PAPERS

United States	Canada
Badger Paper	Abitibi-Price
Boise Cascade	Alliance Forest Products
Bowater	Avenor
Champion	Cascades
Chesapeake	Canfor
Consolidated Papers	Domtar
Crown Vantage	Fletcher Challenge
Georgia-Pacific	MacMillan Bloedel
P.H. Glatfelter	Noranda Forest
International Paper	Repap Enterprises
James River	Rolland
Kimberly-Clark	Tembec
Mead Corp.	Stone-Consolidated
Mosinee Paper	West Fraser Timber
Potlatch	George Weston
Specialty Paperboard	
Stone-Container	
Union Camp	
Wausau Paper	
Westvaco	
Weyerhaeuser	
Willamette Industries	

TISSUE PRODUCTS

United States	Canada
Chesapeake	Cascades
Fort Howard	Perkins Papers
Georgia-Pacific	
James River	
Kimberly-Clark	
International Paper	
Mosinee Paper	
Pope and Talbot	
Potlatch	
Procter and Gamble	

SPECIALTY PAPERS

United States	Canada
Bemis	Cascades
Bontex	Domtar
Buckeye Cellulose	Repap Enterprises
Caraustar Industries	St. Laurent Paperboard
Dexter Inc.	
Greif Bros.	
Lydall	
Mosinee Paper	
Republic Group	
Sealed Air	
Specialty Paperboard	
Tenneco	

I. Primary products produced

to *Widman's World Wood Review (1)*, recent price increases are expected to continue and, if manufacturers continue to restrain production output, forecasts are for pulp prices to reach US$ 700 and newsprint to reach US$ 650 by year end. However, some sources offer less optimistic near-term prospects for pulp and paper prices due to expected new capacity *(2)*.

PULP AND PAPER INDUSTRY OVERVIEW

North American overview

North America is the world's largest producer of pulp and paper. The United States, Canada, and Mexico together produced 103 million tons of paper and paperboard and 86 million tons of pulp during 1995 *(3)*. The United States and Canada are responsible, in large measure, for the relatively large production capacity of this geographic region. North America is geographically defined as the land masses of Canada, Mexico, and the United States; however, because of the similarities in population, market structure, and political economy, Mexico is often grouped with Latin America in discussions of global trade and commerce. Most pulp and paper industry analysts, including the United Nations Food and Agricultural Organization, consider Mexico part of Latin America when calculating industry statistics. Therefore, the financial analysis of the North American pulp and paper industry reported here focuses on U.S. and Canadian companies. However, to gain insight into the size and strength of this regional competitor, an overview of the Mexican industry is presented.

United States

The United States is by far the world's largest producer and consumer of pulp and paper. With 537 paper and paperboard mills and 190 pulp mills, the United States produced 81 million tons or 29% of world paper and paperboard output for 1995. At the same time, the United States consumed approximately 87 million tons of paper and paperboard, three times as much as Japan, the second largest consumer. Much of U.S. pulp and paper production is consumed domestically. In 1995, the United States exported only 8.5% of its paper and paperboard production and 11% of the pulp produced *(3, 4)*.

The United States encompasses almost 3 million km^2 of forestland, about 2 million km^2 of which are maintained as commercial forest. The major producing regions for pulp and paper in the United States are New England (primarily Maine and New Hampshire), the Great Lakes region, the Pacific Northwest, and the southern United States. The U.S. pulp and paper industry is fully diversified in terms of product lines, producing a wide array of commodity as well as value-added products.

During the late 1980s and early 1990s, the U.S. pulp and paper indus-

U.S. companies	Annual sales from pulp and paper operations[a]	Total annual sales	Pulp and paper sales as a % of total sales
International Paper	$13,895	$19,797	70%
Kimberly-Clark	13,789	13,789	100
Procter and Gamble	10,196	33,434	30
Stone Container	7,103	7,351	97
Georgia-Pacific	6,943	14,292	49
James River	6,800	6,800	100
Champion International	6,007	6,972	86
Weyerhaeuser	5,682	11,788	48
Mead	5,179	5,179	100
Jefferson-Smurfit	4,093	4,093	100
Union Camp	3,271	4,212	78
Westvaco	2,985	3,272	91
Willamette Industries	2,810	3,874	73
Tenneco	2,752	8,899	31
Sonoco Products	2,706	2,706	100
Boise Cascade	2,518	5,074	50
Temple-Inland	2,194	3,460	63
Bowater	1,884	2,001	94
Fort Howard	1,621	1,621	100
Consolidated Papers	1,579	1,579	100
Bemis	1,523[b]	1,523	100
Chesapeake	1,234	1,234	100
Potlatch	1,099	1,605	68
Crown Vantage	1,077	1,077	100
Gaylord Container	1,051	1,051	100
Rock-Tenn	903	903	100
Longview Fibre	778	986	79
Sealed Air	723[b]	723	100
Greif Brothers	719	719	100
Rayonier	662	1,261	52
P.H. Glatfelter	624	624	100
Caraustar Industries	528	545	97
Wausau Paper	516	516	100
Buckeye Cellulose	409	409	100
Louisiana-Pacific	334	2,843	12
Mosinee Paper	306	306	100
Pope and Talbot	259	524	49
Dexter Inc.	282[b]	1,089	26
Lydall	252	252	100
Media General	140	708	20
Specialty Paperboard	118	118	100
Badger Paper Mills	93	93	100
Republic Group	63	96	66
Bontex	51[b]	51	100

[a]Pulp and paper annual sales mean is US$ 2.676 billion.
[b]Sales figures from pulp and paper operations include sales from composite products and nonwood packaging and printing products.

II. Annual sales of U.S. pulp and paper firms for 1995 (US$ in millions)

Canadian companies	Annual sales from pulp and paper operations[b]	Total annual sales	Pulp and paper sales as a % of total sales
Avenor	$1,756	$2,058	85%
Cascades	1,654	1,654	100
Domtar	1,607	2,037	79
Abitibi-Price	1,313	2,027	65
Repap Enterprises	1,236	1,513	82
MacMillan Bloedel	1,225	3,828	32
Stone-Consolidated	1,205	1,259	96
Noranda Forest	1,125	1,754	64
Fletcher Challenge	1,107	1,569	71
Donohue	596	819	51
George Weston	567	9,448	6
Canfor	559	1,408	40
Tembec	450	642	71
West Fraser Timber	400	1,087	37
Weldwood	380	827	46
St. Laurent Paperboard	326	326	100
Rolland	320	320	100
Doman Industries	306	596	51
Crestbrook	273	392	70
Harmac Pacific	263	263	100
Alliance Forest Products	210	293	72
Spruce Falls	180	183	98
Slocan Forest Products	143	628	23
Perkins Papers	108	108	100

[a]IMF conversion value US$ 1 = CAD 1.3724
[b]Pulp and paper annual sales mean is US$ 721 million.

III. Annual sales of Canadian pulp and paper firms for 1995 (US$ in millions[a])

try invested heavily in technological upgrades and capacity expansion, only to face a subsequent economic recession. The austerity measures adopted in the ensuing years appear to be having lasting impact. Between 1990 and 1995, many U.S. firms redefined their core businesses by divesting non-core or unprofitable operations and focusing instead on production effectiveness and efficiencies. Many companies in the mid-1990s are now leaner and more productive. According to a recent study reported in *Pulp and Paper International (4)*, U.S. paper and paperboard capacity is expected to grow 2.5% annually over the next several years. This rate is unchanged from the ten years previous; however, 56% of this expansion is expected to be realized through gains in production efficiencies.

Despite growing demand and production during the first half of 1995, average annual paper and board production for the year was steady. Although U.S. domestic newsprint production remained flat for 1995, domestic purchases increased slightly over 1994. U.S. shipments of printing and writing papers decreased 2% to 23 million tons due to publisher paper inventory buildup late in the year. Boxboard production for 1995 increased 3% to 14 million tons, driven by strong demand for food service and milk carton markets as well as a 25% increase in export-related production. Finally, tissue markets, where demand and production tend to be more stable, posted increased production of almost 2% *(4)*.

Canada

With more than 150 domestic pulp and paper mills, Canada produced almost 19 million tons of paper and board, and 25 million tons of pulp in 1995. However, unlike the United States, Canada consumed only 6.7 million tons of paper and board in 1995, far less than it produced during that period. Furthermore, Canadian industry produces far more pulp than it is able to utilize in domestic paper and board production. Although Canadian pulp output was half that of the United States in 1995, Canada supplied approximately one-third of the world's market pulp *(5)*. Canada is also a large net exporter of paper and board products, exporting 73% of its production. Although 50% of Canadian shipments currently go to the United States, increased import competition from South American and Asian producers is negatively impacting Canadian paper imports in the American market. And as growth in American demand for paper and board is declining, the Pacific Rim has become Canada's fastest growing export sector *(6)*.

The strength and position of Canada's industry is built largely on Canada's diverse timber resources, as well as relatively inexpensive and abundant energy and affordable and easy access to U.S. markets. Canada has 4.2 million km^2 of forestland, 2.5 million km^2 of which is commercial forestland. The Canadian industry is somewhat divided geographically. Production in eastern Canada is primarily paper and newsprint, with Quebec boasting the greatest number of mills. The central region of the country produces hardwood market pulpage. Western Canada, and British Columbia in particular, is renowned for its softwood fiber resources and has significant pulping and solid wood operations *(5)*.

Pulp and newsprint comprise the bulk of Canadian pulp and paper production. Canada accounts for 33% of global pulp capacity and 26% of newsprint capacity. Newsprint and uncoated groundwood paper shipments total 12 million tons and represent 37% of Canadian industry sales for 1995; and, like the United States, Canadian manufacturers are moving to higher margin, less cyclical value-added product lines *(7)*.

As for 1995, Canadian companies finally emerged from the red and into the black. Increased demand and high prices in the first three quarters of 1995 generated cumulative earnings of approximately US$ 3 billion for the year, a significant improvement over the collective loss of US$ 5.1 billion from the four years previous. Inventory corrections had a major impact on paper production during the second half of the year. Pulp exports dropped 18% in the fourth quarter. Kraft, tissue, and specialty paper shipments grew approximately 3.5%. Despite robust activity during the first half of 1995, declining orders from publishers and merchants forced printing paper manufacturers to scale back production in the second half of the year, resulting in a 9% drop during the fourth quarter. Newsprint shipments dropped 2%, and packaging and boxboard sectors declined 0.8% *(5)*.

Mexico

Recession and economic instability continue to plague Mexico and its paper industry. Annual growth in the pulp and paper sector was 7% in 1989 and bottomed out in 1994 at 0.7%. According to an industry research report, the expected annual growth rate for the Mexican paper and paperboard market over the next several years is only 0.9% *(8)*. As a large importer of pulp, Mexico found that high pulp prices for 1994 and 1995 raised production costs for producers, and the peso's devaluation further raised the price of imported products.

Access to timber supplies is a major obstacle for Mexican pulp and paper manufacturers. Most forestland is owned by small private owners or the government, and only 17% of timber harvested is used for cellulose production. As a result, Mexico ranks second in the world in use of recovered fibers for the manufacture of paper and paperboard.

Another major factor influencing Mexican industry is the relative lack of access to investment capital. The capital intensity of the industry limits horizontal integration of production. Expansion is costly and credit limited. According to a recent industry study, Mexican manufacturers average only three product lines *(8)*.

Mexico's gross domestic product dropped 6% in 1995, while paper consumption dropped 12% *(9)*. However, Mexican paper manufacturers are capitalizing on the favorable export opportunities created by the depressed Mexican peso. Grupo Industrial Durango, Mexico's largest fully integrated packaging manufacturer, realized substantial growth in 1995 despite a reported 25% decrease in domestic packaging demand. Aggressive exporting and domestic marketing resulted in a 32% increase in net sales and an almost 300% increase in operating profit over 1994.

According to a recent article in *Pulp and Paper Week (9)*, Mexico's three largest paper manufacturers reported increased earnings for the first three quarters of 1996. Kimberly-Clark de Mexico, Grupo Industrial Durango, and Empaques Ponderosa have all prospered because of strong export markets and lower recovered paper prices. Grupo Industrial Durango is the only company posting an increase in net sales.

U.S. companies	Return on equity (%)[b]
Sealed Air	90.0
Caraustar Industries	35.6
Stone Container	34.8
Georgia-Pacific	33.2
Procter and Gamble	32.7
Willamette Industries	31.8
Bowater	27.5
Buckeye Cellulose	25.7
Lydall	25.2
Republic Group	25.0
Tenneco	24.0
Union Camp	23.0
Boise Cascade	22.9
Champion International	22.4
Sonoco Products	22.3
Chesapeake	21.7
Specialty Paperboard	21.7
Consolidated Papers	21.5
P.H. Glatfelter	21.5
Rayonier	20.0
Bemis	18.3
Weyerhaeuser	18.2
Longview Fibre	17.8
Greif Bros.	17.2
Mead	16.1
International Paper	16.0
Mosinee Paper	16.0
Media General	15.0
Temple-Inland	14.9
Gaylord Container	14.7
Westvaco	14.2
Rock-Tenn	14.0
Wausau Paper	13.8
Badger Paper	13.5
Potlatch	11.5
Dexter	11.4
James River	4.6
Crown Vantage[c]	1.0
Kimberly-Clark	0.9
Jefferson Smurfit	-0.4
Fort Howard	-0.7
Louisiana-Pacific	-2.9
Pope and Talbot	-11.8
Bontex	-12.5

[a]Return on equity (ROE) = net income/average common shareholders' equity.
[b]Average ROE is 18.3%.
[c]Crown Vantage and Buckeye Cellulose became public companies in 1995, so ROE is calculated on 1995 shareholders' equity.

IV. Return on equity of U.S. firms[a] for 1995

RESEARCH OBJECTIVES

Drawing on previous research in this area *(10)*, this study has a threefold purpose. The first objective involves identifying all publicly owned U.S. and Canadian pulp and paper companies and analyzing their 1995 financial information as reported in

Canadian companies	Return on equity (%)*
Spruce Falls	57.0
Repap Enterprises	54.0
St. Laurent Paperboard	41.0
Donohue	38.0
Weldwood	36.9
Domtar	36.0
Alliance Forest Products	31.2
Cascades	30.2
Abitibi-Price	29.0
Avenor	28.6
Tembec	24.5
Harmac Pacific	24.3
Rolland	23.3
Slocan Forest Products	21.6
Noranda Forest	18.0
Doman Industries	16.0
West Fraser Timber	15.3
MacMillan Bloedel	15.0
George Weston	12.9
Perkins Paper	10.8
Stone-Consolidated	10.7
Crestbrook	8.5
Fletcher Challenge	6.6
Canfor	6.3

*Average ROE is 24.8%.

V. Return on equity of Canadian firms for 1995

annual reports. Using annual sales, return on equity, earnings per share, and debt-to-equity ratios as measures of performance, financial-based rankings of the companies are presented. Second, the 1995 capital expenditures and international activities undertaken by these companies are examined. Last, a discussion is presented of important trends that are emerging in international pulp and paper markets.

METHODOLOGY

Sample of firms and response rates

The scope of this research was to examine all publicly traded North American pulp and paper firms, as compared to privately owned companies. Manufacturers were identified using the *1996 Lockwood-Post Directory of the Pulp and Paper Industry and Allied Trades, Standard and Poor's Million Dollar Directory*, and *Moody's Directory of International Companies*. Only those firms whose primary output included pulp and paper products were included in the study. For example, a gypsum wallboard manufacturer or a roofing manufacturer that uses wood fiber in the production of shingles is not considered a primary pulp and paper manufacturer. In total, the number of pulp and paper companies included 44 from the United States, 24 from Canada, and 5 from Mexico. During the autumn of 1996, each of these companies was sent a request for its most recent annual report. Of those contacted, 44 U.S. companies, 21 Canadian companies, and one Mexican company sent their 1995 annual reports (90% response). Harmac, Tembec, and Weldwood of Canada did not respond to multiple requests for annual reports, so the Lexis-Nexis database was used to obtain financial information along with Internet resources like *STAT-USA, Industry Canada,* and *Canadian Corporate News*. Obtaining current financial information from the Mexican industry posed a challenge because only one English annual report was obtained, and Mexican annual reports could not be found on the Internet. Due to this lack of primary information and in consideration of the common practice of industry research to include Mexico in Latin American groupings, a decision was made to focus the financial review on the United States and Canada. In sum, then, the response rate for requests for annual reports was 96%.

In order to conduct an in-depth financial analysis of the pulp and paper industry, company information contained in the annual reports was supplemented with *Value Line Research Reports* and *Standard and Poor's Corporate Reports*. Additionally, overall industry assessments and statistics were obtained through *Globe Information Services, Industry Canada, STAT-USA, Pulp and Paper International*, and *Pulp and Paper Week*.

Areas of investigation

A number of areas were examined in this study. The first involved developing a list of primary products, or principal products manufactured, on a per-firm basis. This categorization brings clarity to the type of manufacturing a firm is engaged in as well as defining its primary competitors in a particular industry.

Second, an in-depth analysis was conducted of each firm's 1995 financial information. Given today's highly competitive global market, understanding the relative financial performance and liquidity of pulp and paper firms is essential to a full understanding of the industry. This study reports the findings of each firm's annual sales, return on equity (ratio of net income to average common shareholders' equity or ROE), earnings per share (ratio of net profit to total shareholders' equity or EPS), and debt-to-equity ratios of liquidity (ratio of total liabilities to total shareholders' equity).

It should be noted that many pulp and paper firms produce and sell a multitude of forest related products and nonwood products. However, revenues and expenditures pertaining specifically to pulp and paper operations are reported separately from overall operations, when possible. Analyzing pulp and paper sales separately provides a more accurate picture of firm productivity and position in the industry. For consistency and ease of comparison, all Canadian sales figures reported in 1995 annual reports were converted to U.S. dollars using the International Monetary Fund's average U.S. dollar exchange rate for 1995 (US$ 1 equals CAD 1.3724). In order to achieve comparable figures for financial analysis, a standard formula was created for use in defining all ratios, rather than relying on the formulas as presented in each annual report. A description of the formulas is provided in the research findings section.

Third, examining capital expenditures provides a good indicator as to the focus and near-term growth of the industry. This study outlines each firm's capital expenditures on pulp and paper operations during 1995.

The fourth area investigated in this study was the degree of international manufacturing and exporting engaged in by pulp and paper firms as detailed in their annual reports. Exporting activities, foreign production facilities, and overseas markets are discussed.

STUDY FINDINGS

Principal products

Competitive advantage is at the heart of performance in almost all competitive markets. To sustain such an advantage, a company must differentiate through designing a set of differences to distinguish the company's product from competitors' offerings *(11)*. Because such a competitive orientation is so important to companies, **Table I** outlines the principal products manufactured by the 44 U.S. and 24 Canadian publicly traded pulp and paper firms identified in this study. Based on information provided in the annual reports, companies are grouped according to the following categories: market pulp; newsprint, paperboard and packaging; printing and writing papers; tissue products; and specialty products. In the next section, each of these product categories is briefly described.

The term market pulp is inclusive of all pulp sold on the open market as either wet lap (≈50% solids) or dry lap (≈80% solids). Companies included in the market pulp category are pulp producers without paper machines and companies which sell excess pulp production. Newsprint contains a high percentage of mechanical pulp and is used for printing newspapers and other low cost publications. Companies in the newsprint category also include groundwood producers.

The paperboard and packaging category encompasses both paperboard and packaging producers. Paperboard is any heavyweight paper above ≈130 g/m^2 used in packaging. Bleached paperboards are used in folded cartons, cups, and plates, while unbleached paperboards are used in linerboard, corrugating medium, and corrugated boxes.

Printing and writing papers includes coated wood-free, uncoated wood-free, coated groundwood, and uncoated groundwood. Uncoated groundwood papers include telephone directory paper, supercalendered publishing papers, and others. Uncoated wood-free grades include fine writing papers, tablet papers, bond, and envelope paper. Coated papers, divided into coated groundwood and coated wood-free, are used for magazines, sales brochures, and catalogs.

Tissue products include sanitary tissues, toweling, and wrapping tissues. Firms in the specialty products category manufacture products with distinct characteristics to serve specific purposes, such as glassine, greaseproof, and cigarette papers.

Of the 44 U.S. firms examined, 19 focus exclusively on pulp and paper manufacturing. Fourteen firms are integrated forest products companies with solid wood products as well as pulp and paper businesses. Eleven companies are diversified or specialty manufacturers for whom pulp and paper production is an ancillary operation. For example, Media General is a diversified communications company that owns Garden State Paper and has a majority interest in Southeast Paper, making Media General the largest U.S. producer of 100% recycled newsprint. Similarly, Tenneco is a

U.S. companies	Earnings per share[b]
Georgia-Pacific	$11.29
Willamette Industries	9.34
Champion International	8.01
Union Camp	6.45
Mead	6.33
Boise Cascade	5.39
Bowater	5.22
Consolidated Papers	5.16
Temple-Inland	5.01
Weyerhaeuser	4.83
Rayonier	4.75
International Paper	4.50
Stone Container	3.89
Chesapeake	3.88
Potlatch	3.72
Procter and Gamble	3.48
Tenneco	2.80
Westvaco	2.78
Bemis	2.55
Gaylord Container	2.44
Greif Bros.	2.39
Jefferson Smurfit	2.23
Crown Vantage	2.05
Media General	2.01
Mosinee Paper	1.92
Dexter Inc.	1.67
Caraustar Industries	1.66
Sonoco Products	1.64
Specialty Paperboard	1.56
P.H. Glatfelter	1.49
Longview Fibre	1.47
Badger Paper Mills	1.41
Rock-Tenn	1.33
James River	1.26
Sealed Air	1.25
Lydall	1.23
Republic Group	1.10
Wausau Paper	0.85
Fort Howard	0.57
Kimberly-Clark	0.12
Louisiana-Pacific	(0.48)
Bontex	(0.93)
Pope and Talbot	(1.86)
Buckeye Cellulose[c]	n/a

[a]Earnings per share (EPS) = net profit/number of common shares outstanding.
[b]Average EPS is US$ 2.97.
[c]Buckeye did not report EPS for 1994 as it became public in November 1995, with the first fiscal year ending in June 1996.

VI. Earnings per share of U.S. firms[a] for 1995

Canadian companies	Earnings per share*
Weldwood	$5.33
Avenor	3.73
Alliance Forest Products	3.32
George Weston	2.93
West Fraser Timber	2.58
St. Laurent Paperboard	2.40
Donohue	2.24
Harmac Pacific	2.16
Tembec	2.15
Abitibi-Price	2.11
Stone-Consolidated	1.89
MacMillan Bloedel	1.60
Rolland	1.46
Domtar	1.31
Slocan Forest Products	1.17
Cascades	1.09
Doman Industries	0.96
Noranda Forest	0.96
Crestbrook Forest Industries	0.94
Repap Enterprises	0.83
Fletcher Challenge	0.71
Canfor	0.58
Spruce Falls	0.35
Perkins Paper	0.14

*Average EPS is US$ 1.79.

VII. Earnings per share of Canadian firms for 1995

diversified firm with interests in the automotive, shipbuilding, and energy industries as well as paperboard and packaging operations.

Two-thirds of the 24 Canadian companies examined are integrated forest products companies. Sixteen of these produce building products as well as pulp and paper. Canada supplies one-third of the world's market pulp, and 20 of the 24 Canadian firms manufacture market pulp to some extent. Five firms—Weldwood, Harmac, Pacific, Crestbrook, and Doman—have limited their involvement in the pulp and paper industry to pulp production. And Harmac, a 52% owned subsidiary of MacMillan Bloedel, is devoted solely to the manufacture of kraft pulp.

On the whole, the Canadian pulp and paper industry tends to be more commodity oriented than the United States, with the primary sectors being pulp and newsprint production. Nearly half the firms examined manufacture newsprint. Abitibi-Price, one of the world's largest newsprint manufacturers, has annual newsprint production capacity of 1.6 million tons. Abitibi's production capacity represents 10% of the total 16-million-ton North American newsprint capacity *(12)*. Five of Canada's largest newsprint manufacturers represent nearly 40% of 1995's North American newsprint production capacity. However, Canadian newsprint capacity is declining slightly as several manufacturers are converting commodity production facilities to value-added grades.

Annual sales for 1995

Annual sales refers to the dollar amount of revenues after discounts, returns, and other allowances have been subtracted from gross revenues. **Tables II and III** list U.S. and Canadian firms in descending order according to 1995 annual sales derived from pulp and paper operations.

Of the U.S. firms, total sales ranged from a high of US$ 13.9 billion to a low of US$ 51 million (Table II). The average annual sales equaled US$ 2.7 billion. International Paper ranked first in sales with US$ 13.9 billion in 1995 revenues. Kimberly-Clark was a close second with US$ 13.8 billion, followed by Procter and Gamble (US$ 10.2 billion), Stone Container (US$ 7.1 billion), and Georgia-Pacific (US$ 6.0 billion).

For Canadian firms, the range of annual sales went from a high of US$ 1.8 billion to a low of US$ 108 million, with a mean of US$ 721 million (Table III). Avenor ranked first with sales of US$ 1.8 billion, followed by Cascades (US$ 1.6 billion), Domtar (US$ 1.6 billion), Abitibi-Price (US$ 1.3 billion), and Repap Enterprises (US$ 1.2 billion).

In comparing U.S. and Canadian firms, the size of net sales for U.S. firms was significantly larger than their Canadian competitors. Twenty-six U.S. firms (59%) and nine Canadian firms (38%) reported pulp and paper sales greater than US$ 1 billion. However, no Canadian company posted sales over US$ 2 billion. The top 18 U.S. companies each had higher pulp and paper sales than Avenor, the number one ranked Canadian firm with 1995 pulp and paper net sales of US$ 1.8 billion.

Return on equity

To measure the profitability of each company, a calculation was performed of the ratio of net profit to owners' equity or return on equity (ROE). Return on equity reports the return that owners of the company, or common stockholders, receive on their investment in the firm. Almost 50% of the U.S. firms and 58% of Canadian firms earned an impressive 20% or greater return on equity during 1995. Strong demand and record high pulp and newsprint prices during the first half of the year resulted in many companies reporting record earnings for 1995.

As **Table IV** reports, return on equity ranged from 90% to a low of –12.5% for U.S. companies. The mean or average return on equity was 18.3%. The five most successful firms, in terms of return on equity, were Sealed Air (90%), Caraustar Industries (36%), Stone Container (35%), Georgia-Pacific (33%), and Procter and Gamble (33%). Of these companies, only two of these firms, Georgia-Pacific and Willamette, are diversified forest products firms. Companies such as Weyerhaeuser, Longview Fibre, and Potlatch, whose core businesses include solid wood products as well as pulp and paper, produced more moderate returns on equity. Because the markets for solid wood products are often countercyclical to those of pulp and paper, the financial performance of diversified wood products manufacturers tends to be more stable.

The lowest ROE reported by a Canadian firm was 6.3% and the highest was 57% (**Table V**). Average ROE for Canadian firms was 24.8%, almost 35% higher than the average ROE for U.S. companies. Firms with the largest ROE were Spruce Falls (57%), Repap (54%), St. Laurent Paperboard (41%), Donohue (38%), and Weldwood (37%). It is interesting that only one company, Repap, was in the top five group for sales as well as ROE, suggesting that bigger is not always better. If grouped according to product mix, Canadian firms were rather evenly dispersed within the ROE rankings; that is, diversified forest products firms were found throughout the ranking, as were exclusive manufacturers of pulp and paper. One exception was that the five major producers of value-added and specialty papers and packaging—St. Laurent, Domtar, Repap, Abitibi-Price, and Cascades—all reported ROE of 29% and higher, placing them within the top 10 Canadian firms.

Earnings per share

A second profitability ratio analyzed in this study was earnings per share (EPS). Comparing net profit to the number of shares of common stock outstanding measures the dollar amount earned by each share of stock. Earnings per share values are closely watched by investors, and unanticipated changes in EPS can have a substantial impact on stock prices.

Table VI presents earnings per share for U.S. pulp and paper companies. These numbers ranged from a high of US$ 11.29 per share to a low of negative US$ 1.86 per share. The average earnings per share was US$ 2.95. Georgia-Pacific was again one of the top five companies, leading with EPS of US$ 11.29. Companies in the top-five category included Willamette Industries, the second most successful company in terms of return to shareholders with EPS of US$ 9.34. It was followed by Champion International (US$ 8.01), Union Camp (US$ 6.45), and Mead Corp. (US$ 6.33).

The range of earnings per share for Canadian companies reached a high of US$ 5.33 and a low of 13 cents, with a reported mean of US$ 1.79 (**Table VII**). Weldwood, with an EPS of US$ 5.33, enjoyed the highest shareholder returns. Again, Avenor was in the top five with EPS of US$ 3.73. Alliance Forest Products (US$ 3.32), George Weston (US$ 2.93), and West Fraser Timber (US$ 2.58) were also successful in generating returns for their shareholders.

It is interesting to note that the range of earnings per share for U.S. companies was much wider, almost twofold, as compared to the Canadian EPS range. Unlike U.S. companies, no Canadian companies reported negative earnings per share.

Debt to equity ratios

The fourth measure of financial position used to examine U.S. and Canadian pulp and paper firms was the debt to equity ratio. Such a ratio measures the relationship between the amount of debt financing or borrowing and the amount of equity financing (owners' funds). As a rule of thumb, many companies like to maintain debt to equity ratios of less than 2 (200%) in order to maintain a conservative liquidity position.

Table VIII shows that the ratio of debt to equity for U.S. firms ranged from 20.9 to 0.27, with a fairly conservative average of 1.60 (if Crown Vantage is not included in the calculation of the average; if it is, the average is 2.04). Crown Vantage, spun off from James River in August 1995, had the highest debt-to-equity ratio of 20.9. Gaylord Container (7.7), Stone Container (4.6), Buckeye Cellulose (3.5), and Tenneco (3.3) were also more aggressive in their borrowing activities.

The highest debt-to-equity ratio for a Canadian firm was 5.4, while the lowest was 0.51 (**Table IX**). With an average of 1.73, Canadian firms exhibited only a slightly higher borrowing than their counterparts in the

U.S. companies	Debt to equity ratio[b]
Crown Vantage	20.90
Gaylord Container	7.73
Stone Container	4.64
Buckeye Cellulose	3.48
Tenneco	3.27
Sealed Air	3.17
Bontex	2.53
Georgia-Pacific	2.50
James River	2.22
Kimberly-Clark	2.13
International Paper	2.08
Weyerhaeuser	1.95
Boise Cascade	1.75
Media General	1.70
Mosinee Paper	1.68
Procter and Gamble	1.66
Bowater	1.65
Longview Fibre	1.58
Dexter	1.51
Badger Paper Mills	1.45
Chesapeake	1.45
Pope and Talbot	1.40
Champion International	1.36
Potlatch	1.35
Caraustar Industries	1.31
Sonoco Products	1.30
Union Camp	1.28
Rayonier	1.14
P.H. Glatfelter	1.13
Temple-Inland	1.13
Mead	1.02
Bemis	1.01
Westvaco	1.00
Republic Group	0.89
Willamette Industries	0.85
Wausau Paper	0.84
Specialty Paperboard	0.83
Rock-Tenn	0.80
Consolidated Papers	0.69
Louisiana-Pacific	0.69
Lydall	0.55
Greif Bros.	0.27
Jefferson Smurfit	(0.15)
Fort Howard	(1.90)

[a]Debt to equity = total liabilities/shareholders equity (currency translation losses and reforestation costs excluded).
[b]Average debt to equity is 2.04; however, excluding Crown Vantage the average debt to equity ratio is 1.60.

VIII. Debt to equity ratios of U.S. firms[a] for 1995

Canadian companies	Debt to equity ratio*
Repap Enterprises	5.40
Slocan Forest Products	4.56
Crestbrook Forest Industries	3.09
Spruce Falls	2.65
George Weston	2.36
Cascades	2.16
Doman Industries	2.02
Canfor	1.79
Tembec	1.74
Perkins Paper	1.64
West Fraser Timber	1.63
Avenor	1.60
MacMillan Bloedel	1.50
Domtar	1.37
Rolland	1.35
Abitibi-Price	1.26
Noranda Forest	0.93
Donohue	0.81
Stone-Consolidated	0.70
Alliance Forest Products	0.66
Harmac Pacific	0.65
Fletcher Challenge	0.58
Weldwood	0.56
St. Laurent Paperboard	0.51

*Average debt to equity ratio is 1.73.

IX. Debt to equity ratios of Canadian firms for 1995

United States. Borrowing most heavily was Repap Enterprises with a debt to equity ratio of 5.4, followed by Slocan Forest Products (4.6), Crestbrook Forest Industries (3.1), Spruce Falls (2.7), and George Weston (2.4).

Capital expenditures

Capital expenditures involve asset additions or improvements, acquisitions of other operating facilities, and technology and regulatory upgrades. Capital expenditures drive capacity, capital intensity, and pricing cyclicality. Expenditures related to manufacturing efficiencies and production capacity are of particular interest to industry analysts in assessing near-term increases in industry production capacity.

In a review of the industry last autumn by a brokerage firm, purchasing common stocks in pulp and paper companies was seen as being timely because "the cutback on capital expenditures is restraining capacity growth" *(13)*. In that analysis, the author cited a number of expansion projects that had been canceled or postponed.

Table X shows the capital expenditures made in 1995 by U.S. pulp and paper companies. Expenditures ranged from a high of US$ 1.2 billion to a low of US$ 2 million, with a mean value of US$ 201 million. International Paper far outspent its peers with capital outlays of US$ 1.2 billion. Kimberly-Clark ranked second with expenditures of US$ 818 million, followed by Procter and Gamble (US$ 731 million), Weyerhaeuser (US$ 562 million), and Georgia-Pacific (US$ 559 million).

Capital expenditures for Canadian pulp and paper manufacturers, as reported in **Table XI**, ranged from a high of US$ 360 million to US$ 3 million, with a mean value of US$ 96 million. As a percent of pulp and paper sales, capital expenditures averaged 15% for Canadian firms, almost double the average for U.S. companies. Expenditures for three Canadian firms—Harmac, Stone-Consolidated, and Tembec—were not included, as segmented figures were not available. MacMillan Bloedel led the Canadian firms in capital expenditures with outlays of US$ 360 million. The company with the second highest expenditures was Domtar at US$ 246 million, followed closely by Abitibi-Price (US$ 238 million), St. Laurent Paperboard (US$ 157 million), and Avenor (US$ 148 million).

A comparison of the means and range of expenditures between U.S. and Canadian firms indicates that the absolute expenditures by American firms were substantially larger than the Canadian firms. For example, the US$ 1.2 billion outlay by International Paper, the top ranked U.S. firm in terms of capital expenditures, was over three times that of the highest ranking Canadian firm. Despite the impressive magnitude of International Paper's expenditures, it represented only 8.3% of its sales from pulp and paper operations.

U.S. firms averaged investing 8% of pulp and paper sales in capital expenditure projects. Several U.S. firms, including Willamette Industries, Chesapeake, Potlatch, and Louisiana-Pacific, invested over 10% of pulp and paper sales. Canadian firms invested an even greater percentage of sales, reporting an average of 15%. The top four Canadian companies—MacMillan Bloedel, Domtar, Abitibi-Price, and St. Laurent Paperboard—had capital expenditures ranging between US$ 157–359 million, with percentage of sales ranging between 15–48%.

The three major areas of investment reported by North American firms were capacity and technology upgrades, mill acquisitions, and regulatory compliance. Some North American firms reported investment in new production capacity, but many reported projects focusing on increasing the production efficiencies of existing operations. Acquisition of complementary operations and divestiture of marginal production also appeared popular as a means of consolidating operations and increasing efficiencies.

Capital expenditures relating to environmental improvements have been responsible for a growing share of the budget but do not contribute to increasing capacity. As an aside, it is interesting to note that a recent study found that 59% of survey respondents were unwilling to pay more for environmentally friendly paper products *(14)*. One can only speculate as to what this means to companies in terms of their performance implications.

International activity

The last variable examined concerned the level or degree of international involvement of U.S. and Canadian pulp and paper firms. The purpose of investigating internationalism was to better understand the depth of industry involvement in foreign markets as well as to highlight the inter-regional relationship between the U.S. and Canadian pulp and paper industries. To this extent, the following tables examine the foreign sales, foreign manufacturing operations, and exporting activities.

Table XII highlights the 28 U.S. firms that maintain foreign manufacturing operations or report that 10% or more of their total sales are derived from foreign sales. The purpose in using the 10% sales marker for consideration in the table is that many firms with export sales ranging between none and 9% specify only that exports are "less than 10% of sales." Seventeen of the U.S. firms considered in this study produce and sell their products only domestically.

Foreign sales of the U.S. firms ranged from a high of US$ 17.2 billion to a low of US$ 15 million, with an average foreign sales figure of US$ 2.1 billion. Procter and Gamble topped the list of manufacturers with US$ 17.2 billion in sales, more than double the second place competitor, International Paper, with US$ 7.1 billion. The next three firms—Kimberly-Clark, Weyerhaeuser, and Stone-Container—had foreign sales of US$ 4.8 billion, US$ 3.5 billion, and US$ 3.0 billion, respectively. It is interesting to note that of these top five firms, all but Weyerhaeuser boasted global manufacturing operations. Weyerhaeuser's foreign manufacturing operations are limited to Canada; however, Weyerhaeuser reported that 62% of total sales were from foreign sales, the highest percentage of the top five firms. The firm reporting the highest percentage of foreign sales, 80%, was Bontex, a relatively small specialty fiber manufacturer with only US$ 41 million in total sales.

As **Table XIII** illustrates, the foreign sales of Canadian firms were not as widely dispersed as the American sales figures. Canadian foreign sales for 1995 ranged from a high of US$ 2.8 billion to a low of US$ 46 million, with a mean of US$ 844 million. MacMillan Bloedel, with US$ 2.8 billion in foreign sales, topped the list of Canadian companies. The number two Canadian firm in terms of foreign sales, Weston Industries, is not comparable with the other pulp and paper firms. Weston is a diversified manufacturer of various food and natural resource products whose total pulp and paper sales for 1995 were US$ 567 million, significantly less than the US$ 2.0 billion consolidated foreign sales figure reported in Table XIII. The three firms that completed the Canadian top five were Abitibi-Price (US$ 1.8 billion), Noranda Forest (US$ 1.4 billion), and Repap (US$ 1.2 billion).

Twenty-two, or exactly half, of the U.S. pulp and paper firms maintain foreign manufacturing operations, while 27 firms use exporting. Similarly, 50% of Canadian firms maintain foreign manufacturing facilities. Interestingly, all Canadian firms are involved in exporting. Four firms—Abitibi-Price, Stone-Consolidated, Crestbrook, and Spruce

U.S. companies	Capital expenditures[a, b]	Capital expenditures as a % of pulp and paper operations sales[c]
International Paper	$1,157	8%
Kimberly-Clark	818	6
Procter and Gamble	731	7
Weyerhaeuser	562	10
Georgia-Pacific	559	8
James River	441	6
Stone Container	387	5
Champion International	368	6
Willamette Industries	300	11
Tenneco	299	11
Temple-Inland	299	14
Westvaco	284	10
Union Camp	277	8
Mead	263	5
Boise Cascade	243	10
Chesapeake	227	18
Jefferson Smurfit	188	3
Sonoco Products	181	7
Consolidated Papers	159	10
Potlatch	129	12
Bowater	96	5
Bemis	94	6
Rock-Tenn	77	9
Rayonier	68	10
Wausau Paper	66	13
Greif Bros.	61	8
Gaylord Container	59	6
Sealed Air	48	7
Crown Vantage	47	4
Fort Howard	47	3
Louisiana-Pacific	47	14
Longview Fibre	43	6
Republic Group	34	48
Dexter Inc.	30	10
Caraustar Industries	28	5
P.H. Glatfelter	26	4
Buckeye Cellulose	25	6
Pope and Talbot	24	9
Mosinee Paper	17	6
Lydall	12	5
Specialty Paperboard	5	4
Media General	3	2
Badger	3	3
Bontex	2	4

[a]Average capital expenditure is US$ 201 million.
[b]Capital expenditures are for pulp and paper operations.
[c]Capital expenditures average 8% of pulp and paper sales.

X. Capital expenditures of U.S. firms for 1995 (US$ in millions)

Canadian companies	Capital expenditures[a,b]	Capital expenditures as a % of pulp and paper operations sales[c]
MacMillan Bloedel	$360	30%
Domtar	246	15
Abitibi-Price	238	18
St. Laurent	157	48
Avenor	148	8
Noranda Forest	142	13
West Fraser Timber	129	32
Repap Enterprises	97	8
Cascades	83	5
Donohue	74	12
George Weston	70	12
Doman	59	19
Spruce Falls	52	29
Fletcher Challenge	47	4
Slocan Forest Products	43	30
Alliance	24	11
Canfor	18	3
Crestbrook	8	3
Weldwood	8	2
Rolland	7	2
Perkins	3	3
Harmac Pacific[c]		
Stone-Consolidated[c]		
Tembec[c]		

[a]Average capital expenditure is US$ 96 million.
[b]Capital expenditures average 15% of pulp and paper sales.
[c]Capital expenditure information was not available for these firms.

XI. Capital expenditures of Canadian firms for 1995 (US$ in millions)

Falls—posted foreign sales percentages of at least 90% of total sales.

Furthermore, for approximately two-thirds of Canadian firms, 1995 sales to the United States represented at least half of total foreign sales. For firms such as Domtar, Alliance, Spruce Falls, Rolland, and Perkins Paper, this number exceeded 95%. In contrast, while a few U.S. firms reported foreign sales percentages over 50%, the average was about 30%.

FUTURE TRENDS

The expected growth in gross domestic product and the predicted end of inventory drawdowns of paper and paperboard in North America for 1997 signal a shift in supply and demand cycles. Increased demand and sales will mean higher production levels and operating rates. Currently, domestic sales account for more than 80% of U.S. pulp and paper industry output. However, past experiences with slow rates of growth in the domestic market have contributed to efforts that focus on expanding international markets. As a result, U.S. exports have increased at an 8% compounded annual growth rate because of higher exports to Canada, Mexico, Southeast Asia, Latin America, and certain European countries *(15)*. Improved development of and access to the aforementioned foreign markets will be important factors for increasing sales for 1997.

Asia and Latin America are expected to provide the best opportunities for international expansion for the North American pulp and paper industry. During the period of 1990–95, North American paper consumption increased a modest 6.5%, while Asia and Latin America increased consumption by 27% and 17%, respectively *(16)*. Furthermore, 1995 consumption rates offer an even more stark contrast: The amount of paper consumed in the United States increased 0.7%, Asia increased 6%, and Latin American increased 3.5%. Because of such rapid increases in consumption, Asia is considered the world's fastest growing pulp and paper market *(17)*. Hohol cites reports that Asia will account for half the worldwide sales growth for all paper and paperboard grades over the next 25 years. Similarly, Latin America and particularly Chile are experiencing continued market growth. These fiber-rich nations benefited from early investments in fast-growing hybrid tree species. Massive capital investments in the region are funding construction of state-of-the-art manufacturing facilities.

Because of the vast availability of resources, the United States uses approximately 74% wood pulp in papermaking furnish. Conversely, Asia, lacking large quantities of wood, uses only about 51% wood pulp *(18)*. Even with comparatively small amounts of wood pulp used in Asian papermaking furnish, growth in paper manufacturing far outpaces pulp production. This disparity makes the region highly dependent on foreign pulp and recovered paper imports. North American pulp and paper companies are expected to benefit from this need for exported fiber and Asia's continued market growth.

Substantial low cost commodity production from foreign competitors could play a major role in shaping future U.S. production capacity. According to a report in *Pulp and Paper Week (19)*, the U.S. paper industry increased total production capacity by 3.5% for 1996 but plans to add capacity at only 1.5% between 1997 and 1999. Although North America possesses the major advantages of industry experience, highly developed infrastructure, and an established resource base, preparation must be made to withstand expansions in capacity by foreign competitors.

Some foreign countries still lack adequate infrastructure, have unstable economies, and are only beginning to develop the transport routes, reliable energy sources, and market savvy required of major industry *(16)*. Countries

U.S. companies	Foreign sales[a] (US$ millions)	% total sales	Foreign production	Export markets
Procter and Gamble[b]	17,200	52	60 countries	Global
International Paper	7,050	36	31 countries	Global
Kimberly-Clark	4,781	34	33 countries	Global
Weyerhaeuser	3,518	62	Canada	Asia
Stone Container	2,952	40	Global	Canada, Europe
James River	2,330	34	Europe	Europe
Georgia-Pacific[b]	1,400	10	Canada	Global
Champion[c]	1,100	15	Brazil, Canada	Latin America, Asia
Union Camp	922	22	Europe, South America	Asia, Latin America
Rayonier	750	60	New Zealand	Global
Westvaco	695	23	Brazil, Czech Republic	Global
Louisiana-Pacific	648	23	Canada, UK, Mexico	Asia, Europe
Sonoco[c]	566	21	Global	Global
Dexter[b]	557	51	Europe, Canada, Asia	Global
Bowater Inc.	440	22	Canada	Global
Sealed Air[c]	283	39	Canada, Europe, Asia, Mexico	Global
Tenneco	275	10	Canada, Europe, China	Global
Bemis	232	13	Canada, Europe	South America
Longview Fibre	230	23	Asia	—
Potlatch	204	13	—	Asia
Pope and Talbot[c]	172	33	Canada	Europe, Asia
Chesapeake	138	11	Europe, Canada, Asia	—
Lydall	55	22	France	Europe
Bontex	41	80	Belgium	Mexico, Europe, Asia
Specialty Paper[b]	15	13	Asia, Europe	—
Greif Brothers[d]	n/a	n/a	Canada	—
Temple-Inland[d]	n/a	n/a	Mexico, South America	—

[a]Foreign sales are for consolidated operations, and include sales from foreign manufacturing operations plus U.S. exports, unless otherwise noted.
[b]Foreign sales figures are those outside North America.
[c]Sales figures are from foreign manufacturing operations only; U.S. export values were not available.
[d]Foreign sales figures were not available.

XII. International activities of U.S. firms for 1995

like Indonesia will undergo major expansion in 1997, resulting in large increases in pulp and paper production. Local demand for Indonesian pulp and paper is growing but will not be enough to consume the increased output. As a result, excess Indonesian pulp will compete with pulp from the United States in foreign export markets. One can only speculate that capacity and product quality of foreign competitors will continue to improve and cause more aggressive competition in global markets *(20)*.

Strict environmental regulations and diminishing natural resources have increased efforts to recover and utilize recovered paper in both domestic and foreign markets. As a result, recovered fiber, which was primarily used as a supplement to virgin fiber, is now considered an integral component of the papermaking process. The percentage of recovered fiber in the total fiber furnish is expected to increase to 36% by 1999, up from 33% in 1995 *(19)*. Globally, the United States is the leader in exporting recovered fiber, supplying 75 world markets including Canada, Taiwan, Korea, Mexico, Indonesia, Japan, China, Thailand, Venezuela, and the Philippines.

High pulp prices in 1995 influenced an increase in the recovery of paper and paperboard to almost 40%, quickly approaching the sought goal of a 50% recovery rate by the year 2000. In 1996, the U.S. paper and paperboard industry consumed 32 million tons of recovered paper and paperboard. Although consumption of recycled paper for 1996 was 2.5% lower than in 1995 due to lower virgin pulp prices, it was the second highest level of domestic consumption in history. Many U.S. firms, including Boise Cascade, Consolidated Papers, and Jefferson Smurfit, reported substantial capital expenditures earmarked for increased deinking and recovery capacity. Impressively, deinked pulping capacity is estimated to have increased 46% in 1996 *(19)*. **TJ**

Canadian companies	Foreign sales[a] (US$ millions)	% total sales	Foreign production	Export markets
MacMillan Bloedel	2,795	73	US, Mexico, Japan	US, Asia
Weston[b]	2,039	22	US	US, Asia, UK
Abitibi-Price	1,826	90	US	US
Noranda	1,414	81	US, UK	Europe, Asia, US
Repap Enterprises	1,232	83	US	US, Europe, Asia
Stone-Consolidated	1,137	90	US, UK	Global markets
Canfor	1,126	80	US	US, Europe, Asia
Domtar	1,092	54	US	US, Asia
Avenor	1,082	53	US	US, Asia
Cascades	866	52	Europe, US	Europe, US
Fletcher Challenge	765	44	US	US, Asia, others
Weldwood	642	78	—	US, Europe, Asia
Donohue	626	76	—	US, Asia
Tembec	494	77	—	US, Europe, Asia
Doman	459	77	—	Global
Slocan Forest Products	435	69	—	US, others
Crestbrook	381	97	—	US, Europe, Asia
West Fraser	319	69	—	US, Europe, Asia
Alliance	230	79	—	US, others
Spruce Falls	169	92	—	US, others
St. Laurent	155	48	—	US, others
Rolland	73	23	—	US
Perkins	46	43	US	US
Harmac[c]	n/a			

[a]Foreign sales are for consolidated operations and include sales from foreign manufacturing operations plus U.S. exports, unless otherwise noted.
[b]Weston Ltd. sales figures include significant sales unrelated to the forest products industry. In fact, Weston's consolidated foreign sales (US$ 2.039 billion) are more than the total sales of their forest products sector (US$ 670 million). For this reason their foreign activities are not directly comparable with other Canadian firms.
[c]Foreign sales figures unavailable

XIII. International activities of Canadian firms for 1995

Bjorkman is a master of science forest products marketing student and research assistant, Paun is an assistant professor of forest products marketing, and Jacobs-Young is an assistant professor of paper science and engineering at the University of Washington.

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