<table>
<thead>
<tr>
<th>Title</th>
<th>Newsprint availability and prices : the international scenario</th>
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Newsprint Availability And Prices -
The International Scenario
Session 1:

Newsprint availability and prices - the international scenario

An update on sources, availability and pricing of newsprint in the international market
World Paper & Board Production
(in 1,000 tonnes)

Average growth: + 3.1% / year
World Paper & Board Production by Grade (1993)
Composition of Paper Consumption

Total = 243 million M.T.

2010

- Total = 443 million M.T.
- 50.9%
- 35.7%
- 13.5%

1991

- Total = 243 million M.T.
- 57.6%
- 29.1%
- 13.3%

Newsprint
Printing and Writing
Other
Paper Consumption
Per Unit of GDP
Consumption (KG/$GDP

17

13

17

9

20 15 10 5
World Pulpwood Consumption

Millions of Cubic Meters

Developing World
Developed Countries

2010
High Recovered Fiber Scenario

2010
Projected Scenario

1991

1400 1200 1000 800 600 400 200 0

970 115 855

1150 120 1030

635 60 575

ifra
The Paperless Office?

Copiers, fax machines and laser printers in Western Europe


Copiers

Fax

Laser printers
Remarks on the newsprint market

--> Worldwide consumption in 1993: 32.7 million tonnes.

--> 80% of this was used in three main markets: North America, Europe and Japan.

--> There is a correlation between the "degree of development" of a country and its newsprint demand. There are other influencing factors (cultural characteristics, traditional readership, alphabet used,...)

--> The developing countries only account for 18% of world newsprint demand today.
Newsprint Market Trends

--> Increase of the demand in the USA:
   - Low stocks in newspapers
   - Increase of the newsprint consumption

--> Increase of the demand in Europe:
   - Great Britain = + 300,000 t in 1994
   - Germany and France will increase their consumption in 1995
   - Better economical situation in Europe

--> Development of some Asian countries:
   For example:
   - Korea (900,000 t in 1994)
   - China (800,000 t in 1994)

Estimation for newsprint consumption:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>12.7</td>
<td>12.9</td>
<td>13.2</td>
<td>13.3</td>
</tr>
<tr>
<td>West. Europe</td>
<td>8.1</td>
<td>8.4</td>
<td>8.7</td>
<td>8.9</td>
</tr>
<tr>
<td>East. Europe</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Asia</td>
<td>7.5</td>
<td>8</td>
<td>8.5</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>2.7</td>
<td>2.8</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>32.1</td>
<td>33.2</td>
<td>34.5</td>
<td>35.5</td>
</tr>
</tbody>
</table>
Newspaper Production 1980-1993
(in 1,000 tonnes)
The main producers of newsprint in 1993

<table>
<thead>
<tr>
<th>Country</th>
<th>Production (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>9.1</td>
</tr>
<tr>
<td>United States</td>
<td>6.4</td>
</tr>
<tr>
<td>Japan</td>
<td>2.9</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.3</td>
</tr>
<tr>
<td>Finland</td>
<td>1.4</td>
</tr>
<tr>
<td>Germany</td>
<td>1.3</td>
</tr>
<tr>
<td>Norway</td>
<td>1.0</td>
</tr>
<tr>
<td>Others</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Total: 32.7 Mt

---

1. Seven countries represent 75% of the World newsprint production.
Newsprint consumption for selected countries in 1993
(in 1,000 tonnes)

- Italy: 544
- India: 565
- Australia: 599
- France: 746
- China: 774
- Canada: 1146
- United Kingdom: 1943
- Germany: 2109
- Japan: 3408
- USA: 12549

--> The USA consume 38% of the World newsprint production

--> The 10 countries in this chart consume 75% of the World newsprint production.
Newspaper copies sold for 1000 inhabitants

<table>
<thead>
<tr>
<th></th>
<th>Evolution</th>
<th>1993</th>
<th>1994</th>
<th>World Consumption</th>
<th>Capacities</th>
<th>Utilisation</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td>32.7</td>
<td>33.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+0.9 (Mt)</td>
<td>36.7</td>
<td>37.7</td>
<td></td>
<td>9.3</td>
<td>93.5 %</td>
</tr>
<tr>
<td></td>
<td>+0.7 (Mt)</td>
<td></td>
<td></td>
<td></td>
<td>16.3</td>
<td>96 %</td>
</tr>
<tr>
<td></td>
<td>+0.4</td>
<td></td>
<td></td>
<td></td>
<td>11.1</td>
<td>82 %</td>
</tr>
<tr>
<td></td>
<td>+0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.7</td>
<td>95 %</td>
</tr>
<tr>
<td>USA/Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16.3</td>
<td>97 / 98 %</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11.4</td>
<td>84 %</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>93.5 %</td>
<td></td>
</tr>
<tr>
<td>USA/Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96 %</td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>82 %</td>
<td></td>
</tr>
</tbody>
</table>
Newspaper Production by Region in 1994

- North America: 47%
- Western Europe (without Nordic countries): 13%
- Nordic countries: 14%
- Eastern Europe: 4%
- Asia (Japan included): 16%
- Others: 6%
## Newsprint demand in 2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>12733</td>
<td>13788</td>
<td>1055</td>
<td>1</td>
</tr>
<tr>
<td>Western Europe</td>
<td>8025</td>
<td>9778</td>
<td>1753</td>
<td>2.5</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>1323</td>
<td>1811</td>
<td>488</td>
<td>4</td>
</tr>
<tr>
<td>Japan</td>
<td>3699</td>
<td>4686</td>
<td>987</td>
<td>3</td>
</tr>
<tr>
<td>Asia/Africa/Oceania</td>
<td>4654</td>
<td>6876</td>
<td>2222</td>
<td>5</td>
</tr>
<tr>
<td>Latin America</td>
<td>1760</td>
<td>2409</td>
<td>649</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32194</strong></td>
<td><strong>39348</strong></td>
<td><strong>7154</strong></td>
<td><strong>2.5</strong></td>
</tr>
</tbody>
</table>
Asia-Pacific Newsprint Production

Equity Research Associates
Strong demand in Asia

Newspaper demand forecast

- China: 4.1
- Korea: 3.1
- Malaysia: 3.0
- Taiwan: 2.4
- India: 1.5
- Thailand: 0.8

Year:
- 1982: 4.5
- 1983: 4.0
- 1984: 3.5
- 1985: 3.0
- 1986: 2.5
- 1987: 2.0
- 1988: 1.5

Growth:
- +8 to +10% per year (84-86)
Newsprint Capacity in North America

Since 1918

million metric tons

Canada

U.S.

Equity Research Associates

ifra
Canadian Newsprint Shipments Overseas
in Thousands

12-month moving total

Europe
Asia
Latin America
Other

000 tonnes

0 | 200 | 400 | 600 | 800 | 1000

80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

Equity Research Associates
Importance of advertising on newsprint demand

--> Circulation in markets such as USA, Western Europe or Japan are static or declining

--> The driver for newsprint demand is advertising: 1/3 of newspaper pages and 40% of revenue are attributable to advertising.

--> Different forms: printed in the newspaper, ROP advertising, new supplements with heavy ad. content. More and more non-newspaper applications: up to 10% of the newsprint market in certain regions.

--> Advertising directly influences the half of newsprint demand.
Newsprint is an essential component in the freedom of expression:

- Just having ideas is not enough.
- One must be able to express and spread them.
- The only true vector of these ideas is paper.
- Even with the competition of TV and radio, paper has a better "reaching effect".
How much is it to make newsprint?
(Prices in SEK)
## North American Newsprint Industry

### Manufacturing Costs

(expressed in US $ per finished tonne)

<table>
<thead>
<tr>
<th></th>
<th>US South</th>
<th></th>
<th>NW Ontario</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Furnish - Wood</td>
<td>35</td>
<td>42</td>
<td>60</td>
<td>58</td>
</tr>
<tr>
<td>BKP</td>
<td>30</td>
<td>38</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>ONP *</td>
<td>20</td>
<td>35</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>115</td>
<td>95</td>
<td>113</td>
</tr>
<tr>
<td>Chemicals</td>
<td>32</td>
<td>35</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>Energy</td>
<td>75</td>
<td>77</td>
<td>69</td>
<td>70</td>
</tr>
<tr>
<td>Labour</td>
<td>50</td>
<td>52</td>
<td>51</td>
<td>52</td>
</tr>
<tr>
<td>Maintenance</td>
<td>50</td>
<td>53</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>21</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Mill Level Cost</td>
<td>312</td>
<td>353</td>
<td>320</td>
<td>345</td>
</tr>
<tr>
<td>Change</td>
<td>+13.1%</td>
<td></td>
<td>+ 7.8%</td>
<td></td>
</tr>
</tbody>
</table>

* 25% ONP/OMG

source: DIR
Canadian Newsprint Profitability
Average Operating Margin

Quarterly

Eastern Canada
(4 companies)

Canada
(3 Eastern, 2 Western)

| 72 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 |

Equity Research Associates

Up to Q3/93, Abilibi is newsprint only;
new curve, starting Q1/93, includes specialties.
Cost Pressures

- Sharp Increase in Raw Material Costs
  - BC Wood Costs Increase 65% - 1991-1995
  - US South Pulpwood Costs Increase 75% - 1991-1997
  - BKP Prices Increase 100% - 1993-1995
  - ONP Prices Increase 400% - 1993-1995
  - Secondary Treatment Adds $15 per Tonne
Supply Pressures

• No New Capacity in North America
  
  • 375,000 tonnes of Surplus Capacity

• Major Capacity Additions in Europe and Asia
  
  • New Machines Start Up in Korea, Thailand
  
  • Two New Machines Start Up in Germany
  
  • New Machine to Start Up in UK - March 1995
  
  • New Machine Proposed in Sweden 1996
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons</td>
<td>15,732</td>
<td>16,267</td>
<td>16,574</td>
<td>16,466</td>
<td>16,155</td>
<td>16,243</td>
</tr>
</tbody>
</table>

*Source: American Forest & Paper Association, Canadian Pulp and Paper Association*
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Demand (000 Metric Tons)</td>
<td>15,121</td>
<td>15,081</td>
<td>15,061</td>
<td>15,177</td>
<td>15,548</td>
<td>15,710</td>
<td>15,850</td>
<td>16,035</td>
</tr>
</tbody>
</table>

*SOURCE: AFPA, CPPA  **GOLDMAN SACHS

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization (%)</td>
<td>96%</td>
<td>93%</td>
<td>91%</td>
<td>92%</td>
<td>96%</td>
<td>97%</td>
<td>96%</td>
<td>97%</td>
</tr>
</tbody>
</table>

*SOURCE: AFPA  **GOLDMAN SACHS
# Worldwide Capacity Increases

(000) MT/Year

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Central America</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>South America</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Europe</td>
<td>20</td>
<td>--</td>
<td>250</td>
<td>--</td>
<td>--</td>
<td>270</td>
</tr>
<tr>
<td>Asia/Oceania</td>
<td>401</td>
<td>145</td>
<td>35</td>
<td>70</td>
<td>--</td>
<td>651</td>
</tr>
<tr>
<td>Africa</td>
<td>--</td>
<td>50</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>50</td>
</tr>
<tr>
<td>Total &quot;Firm&quot;</td>
<td>421</td>
<td>195</td>
<td>285</td>
<td>70</td>
<td>--</td>
<td>971</td>
</tr>
<tr>
<td>Speculative</td>
<td>280</td>
<td>555</td>
<td>200</td>
<td>330</td>
<td>1,515</td>
<td>2,880</td>
</tr>
<tr>
<td>Total Considered</td>
<td>701</td>
<td>750</td>
<td>485</td>
<td>400</td>
<td>1,515</td>
<td>3,851</td>
</tr>
</tbody>
</table>

Source: Food and Agricultural Organization, United Nations
Eastern U.S. Newsprint Prices

$U.S./tonne

1994
1993
1992
1991
1990
DEC 88 1989
Source: Miller Freeman
Forecast for Newsprint Prices
(Source: Pulp & Paper Week,
prices for 45 g/m2 standard newsprint in $/t)
<table>
<thead>
<tr>
<th>Year</th>
<th>Germany</th>
<th>Great Britain</th>
<th>Sweden</th>
<th>Russia</th>
<th>Korea</th>
<th>Thailand</th>
<th>China</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>250</td>
<td>460</td>
<td>260</td>
<td>100?</td>
<td>260</td>
<td>100</td>
<td>100?</td>
<td>200</td>
</tr>
<tr>
<td>1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Estimation Capacity / Consumption**

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacities</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>+0.7</td>
<td>+1.1</td>
</tr>
<tr>
<td>1994</td>
<td>+0.8</td>
<td>+1.3</td>
</tr>
<tr>
<td>1995</td>
<td>+0.65</td>
<td>+1</td>
</tr>
<tr>
<td>1996</td>
<td>+0.75</td>
<td>+1</td>
</tr>
</tbody>
</table>
### New machines in Europe

<table>
<thead>
<tr>
<th>Companies</th>
<th>Countries</th>
<th>Capacities</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haindl (D)</td>
<td>Germany</td>
<td>250</td>
<td>end 1993</td>
</tr>
<tr>
<td>Enso (F)</td>
<td>Germany</td>
<td>280</td>
<td>09 / 1994</td>
</tr>
<tr>
<td>Palm (D)</td>
<td>Germany</td>
<td>200</td>
<td>10 / 1994</td>
</tr>
<tr>
<td>SCA/Mondi (S)</td>
<td>Great Britain</td>
<td>260</td>
<td>mid 1995</td>
</tr>
<tr>
<td>Holmen (S)</td>
<td>Sweden</td>
<td>270*</td>
<td>mid 1996</td>
</tr>
</tbody>
</table>

But: machines conversions reduce the increase in capacities

(\(^*\) example: Holmen 270 → 130)
Producers / editors partnership = responsible price policy

A responsible price policy should take into account gains in productivity

- Speed
  - 1980: 700 m/mn
  - 1994: 1600 m/mn

- Higher width
  - 1980: 2.6 m
  - 1994: 9.2 m

- Employees
  - 1980: 1200 persons
  - 1994: 400 persons
  - 1980: 280,000 tons
  - 1994: 480,000 tons
Partnership between producers / editors = responsible price policy

- Price rises are too strong

Inflation: +2% / +4%
Fall in prices: 2 years
KAIZEN

- Kamban
- Quality enhancement
- Just-in-time
- Fault-free
- Working in small groups
- Cooperation of the management levels
- Productivity enhancement
- Development of new products

Customer-orientation
TQC (Total Quality Control)
Mechanisation
QC (Quality Circles)
Suggestions
Automation
Work discipline
TPM (Total Productivity Management)

Source: IHAI, KAIZEN
Integrity/provisions for the future

Performance

Identification

Initiative

Trust

Autonomy

Me-Identity/cooperation

Innovation/growth
Apply the rules of lean production

1. Deal with a reduced number of suppliers - suppliers of the first order; i.e. component suppliers who themselves deal with suppliers of the second order and so forth.

2. Exchange information with suppliers regarding expected changes in production volume, but also in analysing production methods and by doing joint cost analysis and definition of the supply prices.

3. Establish a close relationship with the suppliers based on partnership by means of:
   - framework agreements on business relations;
   - joint responsibility on cost reductions to be achieved;
   - freedom to effect product changes within the framework of the standard functions;
   - assistance in the event of production problems; and
   - mutual financial participation.