

## Chapter 12

# Paper, Paperboard and Woodpulp - Production, Consumption and Trade

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### Highlights

- 1 Since early 1999 and through the first half of 2000 both the European and North American pulp and paper sectors sustained a strong economic recovery.
- 1 Recovery contrasted with relatively volatile markets from 1996 through 1998, and afforded producers the best market conditions since the previous market peak in 1995.
- 1 The recovery is attributed to stable economic growth in North America and Europe, restrained growth in mill capacity, and an upturn in Asian and global markets.
- 1 A modest but unprecedented historical decline in paper and paperboard production capacity of -0.5% occurred in the United States in 1999. The capacity utilization rate improved.
- 1 Domestic purchases and consumption of paper and paperboard in both North America and Europe have continued in general to follow upward economic growth trends.
- 1 Although United States markets displayed considerable price volatility from 1996 through 1998, the trend in United States domestic purchases of paper and paperboard was steadily upward.
- 1 Consumption of paper and paperboard was steadily increasing in both Europe and North America in recent years, reaching record levels despite intermittent market volatility.
- 1 The resurgence of Asian and Latin American economies placed increased demand pressures on global fibre supplies, particularly market pulp and recovered paper.
- 1 Production and consumption of pulp have risen in both North America and Europe, but pulp's share of total fibre input continues to decline as use of recovered fibre continues to rise.
- 1 Since early 1999, prices have generally increased for paper, paperboard, market pulp and recovered paper, along with improvements in capacity utilization rates.

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## Secretariat introduction

This chapter was written by Dr. Peter Ince of the USDA Forest Service in a cooperative arrangement with the secretariat. Dr. Ince is responsible for most of the analysis, notably that concerning the capacity-production-price relationship in the United States, which represents a major improvement in the depth of the analysis in this part of the Review. The secretariat wishes to express its gratitude to Dr. Ince and the Forest Service, for their important contribution.

### 12.1 Introduction

Since early 1999 and through the first half of 2000 the pulp and paper sectors of both Europe and North America sustained an economic recovery, which afforded the best market conditions for producers since the previous global market peak around 1995. Record levels of production and consumption for paper and paperboard were achieved in both Europe and North America. The economic recovery in pulp, paper and paperboard markets was indicated by higher prices for market pulp, paper and paperboard, and improved industry profitability. The recovery was attributable to a combination of factors, including, on the demand side, generally stable economic growth in the domestic economies of North America and Europe, and an upturn in Asian and Latin American economies following the Asian economic decline of prior years. As in the past, strong economic activity has positively affected demand for paper and paperboard. On the supply side, there has been restrained growth in overall mill capacity, limiting the over-supply which has occurred in the past. As a result, prices for pulp and paper have been firm in 2000 and profitability has improved.

A number of key factors influenced economic changes with the European and North American pulp and paper sectors, including mergers, consolidation and departure from historical pattern of growth in production capacity, particularly in North America. Corporate mergers, consolidation and slower capacity growth were a reaction to earlier market volatility and variable profitability that occurred in the mid to late 1990s, especially in the period from late 1995 to early 1999. The market volatility of the late 1990s was generally associated with a build up of capacity and excess product inventories in 1996, followed by the economic decline in Asia in 1997 and 1998. Market volatility was influenced also by expanded globalization of markets and by more recent currency exchange rate adjustments (i.e. strong United States dollar versus euro and other currencies).

This chapter analyses and discusses recent trends in markets for paper and paperboard, along with trends in woodpulp. This discussion is connected to discussion of pulpwood market trends, which are explained in

Chapter 7 in the context of overall trends in wood raw material use. The definition of paper and paperboard in the joint FAO/ECF/Eurostat/ITTO questionnaire (see annex) was changed this year, to bring it more in line with commercial realities and industry practice. This change has introduced some discontinuities in the data series, which the secretariat has endeavoured to identify and correct. However, it is likely that a few remain, for which the secretariat apologises.

### 12.2 Paper and paperboard

Apparent consumption of paper and paperboard in both Europe and North America has continued to follow upward economic growth trends, correlated with GDP for example. Paper and paperboard markets for European and North American producers were generally improving since the first quarter of 1999 and at least through the first half of the year 2000. Production of paper and paperboard increased in the United States, but United States producers were somewhat hampered by the exceptionally strong value of the United States dollar. The strong value of the dollar and the earlier Asian economic decline in 1997 and 1998 dampened United States exports of paper and paperboard, while United States imports increased. European producers also suffered a temporary setback in markets in late 1998, largely due to the effects of the Asian economic decline. In general however, apparent consumption of paper and paperboard was steadily increasing in both Europe and North America in recent years, reaching record levels in 1999 despite earlier periods of intermittent market volatility.

During 1999, consumption of paper and paperboard increased by more than 3% in Europe and by over 5% in North America (table 12.2.1). In the United States alone, purchases (not exactly the same as statistics for apparent consumption) of primary paper and paperboard commodities reached a record level of 93.8 million m.t. in 1999, up from 89.8 million m.t. in 1998, according to the American Forest & Paper Association (AF&PA, Paper, Paperboard & Wood Pulp, Monthly Statistical Summary, various issues). The increase in domestic purchases of paper and paperboard of 4.5% in 1999 was closely in line with robust United States domestic GDP growth (at 4.1% in 1999). Apparent consumption of paper and paperboard in the United States and Canada reached a record level of more than 100 million m.t. in 1999. European apparent consumption of paper and paperboard also reached a record level at approximately 85 million m.t. in 1999, up from 82 million m.t. in 1998. In the Russian Federation, consumption of paper and paperboard is reported to have risen strongly, by nearly 30%, although the per capita consumption is still well below that in Europe and North America.

TABLE 12.2.1

Consumption of paper and paperboard in Europe, the Russian Federation and North America, 1996-1999  
(1,000 m.t.)

	1996	1997	1998	1999	Change 1998 to 1999	
					Volume	%
EUROPE	73,463	79,211	82,470	85,322	2,852	3.5
of which:						
Germany	15,346	16,148	17,073	17,642	569	3.3
United Kingdom	11,374	11,906	11,413	11,870	457	4.0
France	9,130	9,772	10,743	10,844	101	0.9
Italy	8,187	9,590	9,592	10,236	644	6.7
Spain	5,407	5,661	6,021	6,377	356	5.9
Netherlands	3,348	3,493	3,894	4,434	541	13.9
Austria	1,298	2,032	1,985	2,136	151	7.6
Belgium-Luxembourg	1,951	2,338	2,736	2,858	121	4.4
Poland	1,692	1,992	2,088	2,250	162	7.8
Turkey	1,768	2,009	2,075	2,144	69	3.3
Finland	2,276	2,220	2,027	2,044	18	0.9
Other countries	13,964	14,270	14,850	14,533	-318	-2.1
RUSSIAN FEDERATION	2,212	2,353	2,128	2,751	623	29.3
Canada	6,733	6,515	6,722	7,961	1,239	18.4
United States	84,875	79,791	91,611	95,829	4,218	4.6
NORTH AMERICA	91,608	86,306	98,332	103,789	5,457	5.5

Source: ECE/FAO TIMBER database, 2000.

Table 12.2.2 displays recent paper and paperboard production data for Europe, the Russian Federation and North America (United States and Canada).

In 1999, European production of paper and paperboard rose by 2.3%, to just over 90 million m.t. In general, all major sectors of the European pulp and paper industry experienced growth in production. Production of all grades rose (except the residual "other paper and paperboard" which refers to a much smaller group of products than in previous years). Production of graphic papers increased by 2.3%. French graphic paper production grew at an above average rate, and the market leaders, Finland and Germany, slightly below average. Within graphic papers, woodfree grades achieved better gains than mechanicals, and coated grades performed somewhat better than uncoated grades.

European production of packing materials, whose volume is equivalent to about 80% of that of graphic papers, also rose, roughly in line with GDP at just over 2%, faster in the largest producer, Germany (+3.1%). This reflected the general level of manufacturing activity, which creates demand for packaging.

Production of sanitary and household papers, a sector which has not shown very fast long-term growth in the past, increased by 4.5% to 5.7 million m.t., with above

average growth in Italy (+7.3%) and the United Kingdom (+13.1%).

According to the Confederation of European Paper Industries (CEPI, Preliminary Statistics 1999, February 2000), the last two years of the 1990s proved to be mirror images of one another in terms of the performance of European pulp and paper companies. (These more detailed trends are not apparent from the annual data in the tables.) According to CEPI, the year 1998 began with record output figures but by mid year a decline had set in which carried through into early 1999. However, the decline was arrested during the first quarter of 1999 and completely reversed by the end of 1999.

It is estimated that European paper and paperboard producers maintained an annual capacity utilization rate of approximately 95% in both 1998 and 1999. The record level of output ensured that European producers more than maintained their share of global paper and board output.

The slowing of growth, which occurred in the main European economies toward the end of 1998, led to a temporary depression in paper and paperboard markets and caused prices to decrease from the third quarter of 1998 into the first quarter of 1999. Depending on grades and countries, price declines were within a range of -5% to -15% according to press surveys. These declines seem

TABLE 12.2.2

Production of paper and paperboard in Europe, the Russian Federation and North America, 1996-1999  
(1,000 m.t.)

	1996	1997	1998	1999	Change 1998 to 1999	
					Volume	%
<b>GRAPHIC PAPERS</b>						
EUROPE	38,329	42,443	43,601	44,604	1,003	2.3
Finland	7,341	8,591	9,243	9,392	149	1.6
Germany	7,274	8,008	8,260	8,400	140	1.7
Sweden	4,453	4,870	5,023	5,125	102	2.0
France	3,924	4,259	4,024	4,200	176	4.4
Italy	2,840	2,931	2,968	3,069	101	3.4
Other countries	12,497	13,784	14,083	14,418	335	2.4
RUSSIAN FEDERATION	1,678	1,639	1,869	2,189	320	17.1
Canada	13,714	14,171	13,736	14,895	1,159	8.4
United States	28,856	30,872	29,221	29,732	512	1.8
NORTH AMERICA	42,570	45,043	42,957	44,627	1,671	3.9
<b>SANITARY AND HOUSEHOLD PAPERS</b>						
EUROPE	4,675	5,440	5,484	5,729	245	4.5
Italy	548	1,026	1,102	1,182	80	7.3
Germany	886	890	931	954	23	2.5
United Kingdom	586	639	635	718	83	13.1
France	508	534	514	520	6	1.1
Spain	284	329	393	416	23	5.9
Other countries	1,863	2,022	1,909	1,939	30	1.6
RUSSIAN FEDERATION	82	93	94	100	6	6.4
Canada	605	617	624	661	37	5.9
United States	5,681	5,831	5,973	6,210	238	4.0
NORTH AMERICA	6,286	6,448	6,597	6,871	275	4.2
<b>PACKAGING MATERIALS</b>						
EUROPE	32,520	34,642	35,346	36,222	876	2.5
Germany	5,562	5,953	5,983	6,218	235	3.9
Sweden	4,246	4,447	4,429	4,527	98	2.2
France	3,842	4,074	4,347	4,500	153	3.5
Italy	3,207	3,702	3,812	3,945	133	3.5
Finland	2,667	2,895	2,869	2,970	101	3.5
Other countries	12,996	13,571	13,906	14,062	157	1.1
RUSSIAN FEDERATION	1,046	1,199	1,242	1,605	363	29.2
Canada	4,105	4,181	4,365	4,591	226	5.2
United States	40,735	42,037	43,338	44,640	1,302	3.0
NORTH AMERICA	44,840	46,218	47,703	49,231	1,528	3.2
<b>OTHER PAPER AND PAPERBOARD</b>						
EUROPE	3,554	3,735	4,185	4,108	-78	-1.9
Germany	1,011	1,102	1,137	1,170	33	2.9
United Kingdom	361	415	464	515	51	11.0
Spain	302	302	366	423	57	15.6
Finland	423	459	420	400	-20	-4.8
Italy	359	373	373	373	0	-0.1
Other countries	1,098	1,084	1,426	1,227	-198	-13.9
RUSSIAN FEDERATION	418	411	390	574	184	47.2
United States	3,983	4,065	4,189	4,295	275	3.8
NORTH AMERICA	3,983	4,065	4,189	4,295	275	3.8

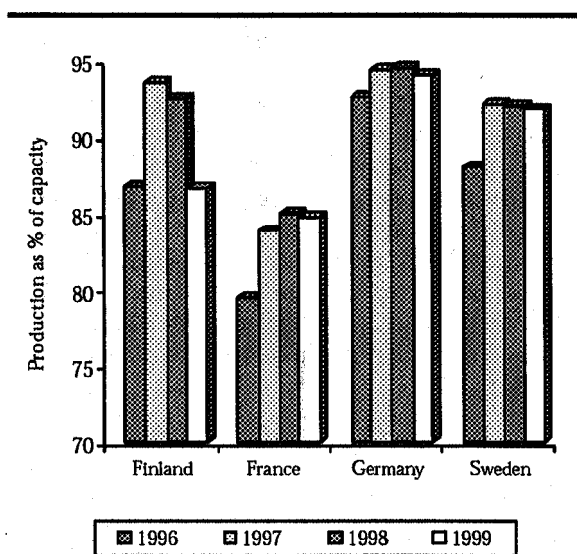
Source: ECE/FAO TIMBER database, 2000.

to have stopped during the second quarter of 1999, and a gradual market recovery was sustained well into the year 2000. With a positive outlook for European GDP growth and stabilization of the international environment, a robust and healthy year was expected for the European paper and paperboard industry, according to CEPI.

While market conditions inside Europe improved during 1999, exports outside the region suffered, particularly during the first half of the year. Expectations are that future export demands will be underpinned by the relatively low foreign exchange value of the euro in trade-weighted terms. Indeed, exports outside of the region began to show improvement late in 1999.

GRAPH 12.2.1

Capacity utilization rates for paper and paperboard in some European countries, 1996-1999



Sources: ECE/FAO TIMBER database, 2000; and FAO, 2000.

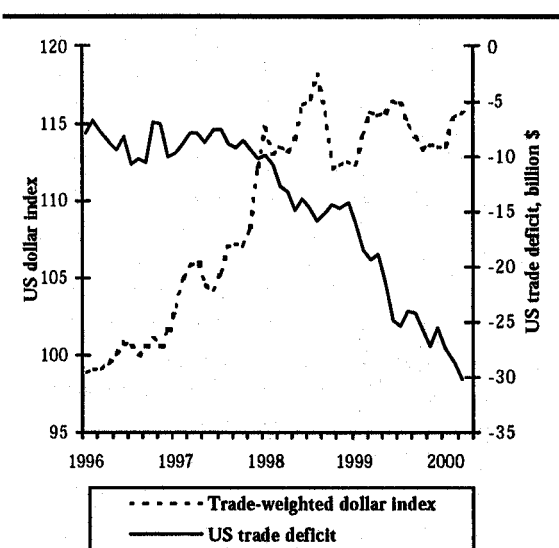
Graph 12.2.1 illustrates recent trends in capacity utilization rates (i.e. production as a percentage of the capacity reported to FAO) for paper and paperboard in four major European paper producing countries. Capacity utilization in 1998 and 1999 stabilized over 90% in Germany and Sweden and increased, from a lower level, in France. In Finland however, it fell, although this may be due to problems with the data as companies reported generally satisfactory operating rates in 1999. To analyse the interaction between capacity, production and profitability, it is necessary to have monthly data which are not available to the secretariat for Europe. For a more detailed analysis of this inter-relationship, see the section on the United States below.

In the United States, production of paper and paperboard increased in 1999 by 3.6%, rather less than the increase in United States apparent consumption (up 4.6% in 1999) or purchases of paper and paperboard (up 4.5% in 1999). The divergence between production and consumption of paper and paperboard in the United States reflects the widening United States trade deficit in paper and paperboard since 1997, with increased imports and decreased exports. In 1999, nearly half of the increase in domestic consumption of paper and paperboard was provided by increased imports (mostly from Canada, but also from Asia and Europe). The relatively high trade-weighted value of the United States dollar continued to dampen United States exports and provided an economic incentive for the high level of United States imports.

In 1999-2000 the exchange rate of the United States dollar rose and the overall United States trade deficit climbed to record levels. The trade deficit (all products, not just paper and paperboard) reached an all-time record of 30.2 billion dollars per month in March 2000. Graph 12.2.2 illustrates the apparent negative relationship between the overall United States trade deficit (United States Department of Commerce current accounts trade balance) and a trade-weighted United States dollar index (J. P. Morgan trade-weighted broad Index).

GRAPH 12.2.2

United States monthly trade-weighted dollar index and monthly United States trade deficit, 1996-2000



Sources: J.P. Morgan, 2000; and United States Department of Commerce, 2000.

The United States trade deficit in paper and paperboard commodities also widened significantly in recent years: the tonnage difference between United States imports and United States exports has more than doubled since 1997. In 1999, United States exports were 8.6 million m.t., down from 9.0 million m.t. in 1998, while United States imports increased from 14.1 million m.t. to 15.3 million m.t. (AF&PA estimates). The widened United States trade deficit in paper and paperboard was attributable in part to the Asian economic decline in the period from 1997 to 1998, and also to the exceptionally strong value of the United States dollar.

It is interesting to examine briefly the developments for production (or shipments), prices, capacity and profitability in the paper and paperboard sector, using the United States as an example. As will be shown, the relationships between these parameters are complex, but crucial for the economic health and sustainability of the sector.

There was a divergence between paper and paperboard market trends and general economic trends, particularly in the United States where paper and paperboard market trends and industry profitability diverged at times from more robust domestic GDP growth trends. As shown in graph 12.2.3, trends in prices (monthly average United States price index for paper and paperboard), were very different from those for

consumption (monthly United States purchases of paper and paperboard). In the late 1990s, United States domestic purchases continued an upward trend in association with growth in United States GDP, but market prices were much more volatile. United States paper and paperboard prices experienced a "double-dip", with a notable drop in prices in 1996, and a more prolonged period of weakness in 1997 and 1998 (associated with the Asian economic decline).

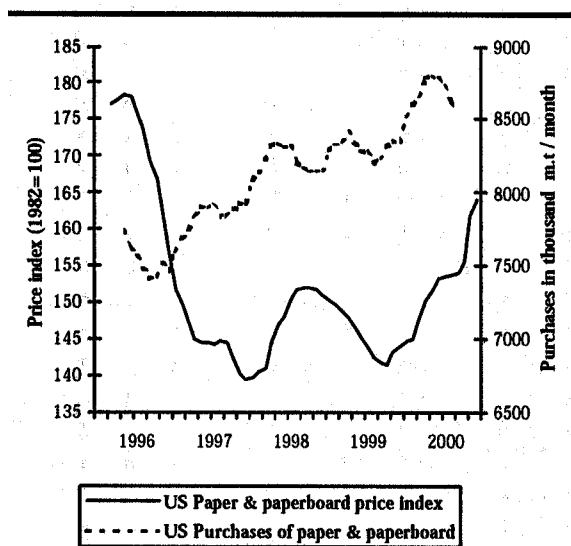
The volatility in prices apparent from graph 12.2.3 caused considerable variability in industry profitability, with notable industry-wide declines in profitability in 1996 and again in 1997 to 1998 (United States Department of Commerce, Quarterly Financial Report). As markets improved and prices increased from early 1999, industry-wide profits also improved, although prices and industry-wide profits remained below 1995 peak levels through the fourth quarter of 1999. Based on United States corporate reports, industry profitability continues to show signs of improvement into the year 2000. Nevertheless, market volatility and the experience of reduced profitability in the period from 1996 to 1998 contributed to an ongoing trend toward industry consolidation and reduced capacity growth. Mergers were negotiated among a number of large United States (and Canadian) firms, and in many cases the consolidations were associated with reductions in mill capacity through closure of existing mills. In general, the United States industry experienced a considerable slowdown, even reversal, of capacity growth relative to previous historical trends.

As a result, an unprecedented, although modest, historical decline in paper and paperboard production capacity of -0.5% occurred in the United States in 1999 as a result of mill closures and limited capacity expansion. This was the first reported decline in United States paper and paperboard capacity over the more than 40 years in which industry capacity data have been compiled, and it stands in contrast to an average annual capacity growth rate of about 2.5% over the preceding 20 years, according to the annual capacity survey of the AF&PA. In 2000, slow capacity growth is expected to continue: United States paper and paperboard capacity is expected to grow by only around 1%, according to AF&PA. Capacity growth decelerated also in Canada, to 1.7% in 1999 and is projected to be just 0.9% in the year 2000, according to the Pulp and Paper Products Council of Canada (Increasingly in many cases, capacity decisions are taken by United States-Canadian or North American-European companies, applying a global, not national, strategy)

How to explain the apparent contradiction between rising purchases and variable, often low, prices and profitability? Developments in capacity, specifically the

GRAPH 12.2.3

United States monthly average price index and domestic purchases of paper and paperboard, 1996-2000



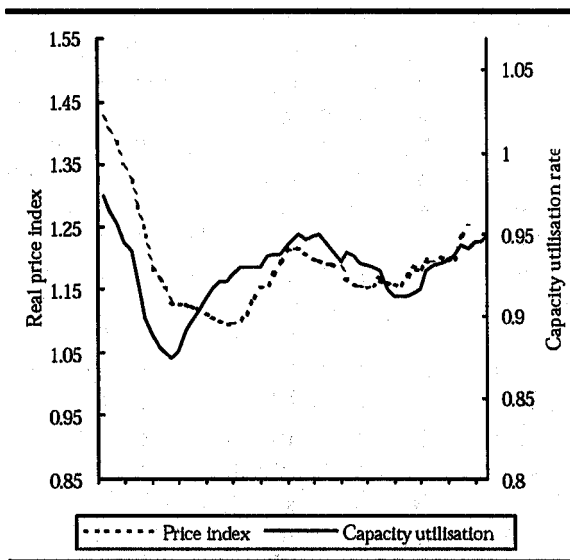
Sources : AF&PA, 2000; and United States Bureau of Labor Statistics, 2000.

capacity utilization ratio, explain price/profitability trends quite well. The capacity utilization ratio (the ratio of actual production to available mill capacity) is an approximate indicator of the balance between market demand and short-run market supply. The numerator of the ratio, actual production, is an approximate indicator of product demand. The denominator of the ratio, available mill capacity, is an indicator of short-run market supply. Price trends are usually positively correlated with trends in capacity utilization, which is often a leading indicator of pulp and paper markets and profitability. Graph 12.2.4 shows for the United States the correlation in recent years between the inflation-adjusted United States average paper and paperboard price index and the United States capacity utilization ratio for paper and paperboard (displayed with a 6-month moving average for capacity and a 4-month lag in prices).

this trend is to form “global companies for global markets”, increasing marketing strengths and finding economies of scale in distribution. However, another important factor is the desire to bring capacity into a satisfactory relationship with demand, which involves maintaining or expanding the most efficient units and closing those whose operating costs are too high compared to the global industry average. Taking these difficult decisions is easier in the context of a very large company with several units for each grade, than in a smaller company where closure of one mill could mean leaving a complete sector or even winding up the company.

GRAPH 12.2.4

United States price index and capacity utilization rates for paper and paperboard, 1996-2000



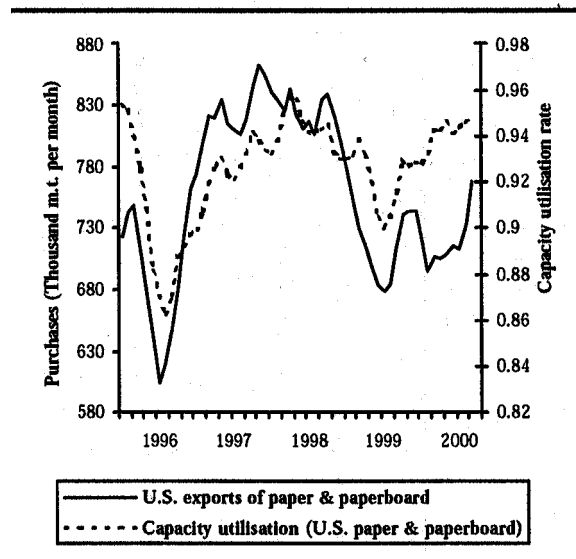
Sources : AF&PA, 2000; and United States Bureau of Labor

Graph 12.2.4 shows the clear correlation, for the United States, between the price for paper and paperboard and capacity utilization rate. The reduction in capacity in North America in 1999, at a time of rising production and consumption played a major role in raising the capacity utilization rate and thus strengthening prices and improving industry profitability.

This development is also linked to the trend towards mergers and acquisitions of major forest products companies, to form truly global players. One reason for

GRAPH 12.2.5

United States exports and capacity utilization for paper and paperboard, 1996-2000



Sources: AF&PA, 2000; and United States Department of Commerce, 2000.

The interaction between capacity utilization rate and product price almost certainly exists also in Europe and other regions. However, at present, the secretariat does not dispose of sufficiently detailed statistical series to replicate the above discussion, prepared by Dr. Peter Ince, of this relationship in the United States. It is hoped to return to this question in future years. It is however worth noting that the trend for prices of paper and paperboard in Finland, shown in graph 12.2.6, are very similar to those for the United States in graph 12.2.3. This similarity is, of course, to be expected in a global industry which the paper industry has become over the past decade.

In the United States, during the late 1990s capacity utilization itself became highly correlated with trends in exports as shown by the monthly trends in graph 12.2.5. This correlation seems difficult to explain at first sight given the fact that United States exports are relatively minor compared to production for the huge domestic market. However, it is the outcome of increased globalization of United States markets and increased volatility of United States trade and export markets during the late 1990s. Thus, even though paper and paperboard exports represent only a small fraction of United States production, United States domestic market

capacity utilization rate was increased from a low of around 90% in early 1999 to levels above 95% by the second quarter of the year 2000, while the trade deficit widened.

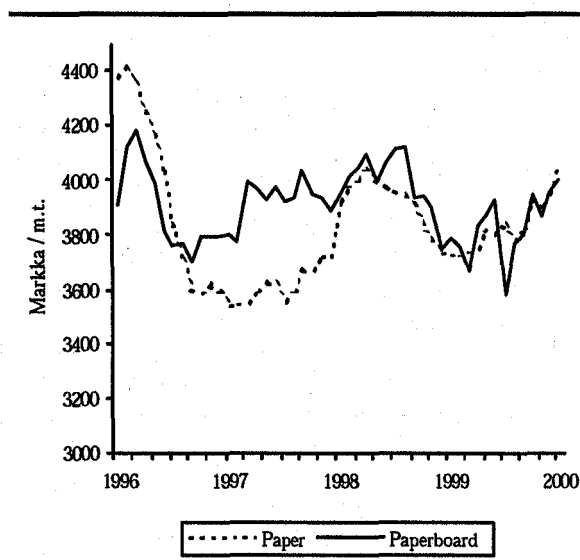
According to the Canadian Pulp and Paper Association (CPPA), Asia's gradual economic recovery had a palliative effect on the Canadian pulp and paper sector in 1999. Furthermore, Canadian paper and paperboard producers were leading beneficiaries of the strong United States dollar and declining United States trade balance in paper and paperboard, with United States paper and paperboard imports from Canada increasing substantially in 1999. CPPA reports that overall Canadian pulp, paper and paperboard exports were up substantially for every major market except for Japan and Latin America, for which Canadian exports both dropped by about 4%. Shipments to the United States - always Canada's largest customer - increased by a robust 9% in 1999. In 1999, exports to the United States accounted for 52% of all Canadian pulp and paper shipments, while shipments to Asia were 15%, shipments to Europe were 12%, shipments to other world regions were 4%, and shipments to the Canadian domestic market were 16%. For the first time in history, the total Canadian pulp, paper and paperboard export shipments to the United States exceeded 16 million m.t. Canada exported more of virtually every product grade to the United States in 1999. Canadian markets in Asia were broadened as pulp and paper exports to Asia excluding China and Japan rose by 25%. Overall capacity utilization for pulp and paper in Canada rose from less than 88% in 1998 to approximately 95% in 1999 according to CPPA, indicating a strong upward momentum in overall demand relative to short-run supply for paper and paperboard in Canada.

Russian production of paper and paperboard also rose strongly, by a quarter, to reach 4.5 million m.t. of which 1.7 million m.t. (38%) were exported. This is a further sign of the beginnings of a recovery in the Russian forest products sector in 1999, and of the important role that exports play in this recovery.

### 12.3 Demand and supply of woodpulp and other fibre

In conjunction with record levels of paper and paperboard production and consumption, woodpulp production and paper recycling rates were at relatively high levels in both Europe and North America in 1999. Production of woodpulp (table 12.3.1) did not increase as much as paper or paperboard production, largely because of continued gains in rates of paper recycling. Nevertheless, since early 1999 and well into the second quarter of 2000, prices for market pulp and recovered

GRAPH 1226  
Finnish export prices for paper and paperboard,  
1996-2000



Source: Finnish Forest Research Institute, 2000.

conditions have become strongly influenced by the volatile trends in exports.

The strong correlation, evident in the mid 1990s between United States paper and paperboard capacity utilization and exports, may however be waning, as the trends appear to diverge from early 1999. This divergence appears to be the result of reductions in mill capacity or mill closures in 1999, as reductions in mill capacity will tend to boost the capacity utilization rate regardless of export market trends. Faced with relatively weak export market conditions through 1999 (largely a result of the strong United States dollar) United States producers appear to have decided to concentrate on achieving a satisfactory utilization rate, rather than seeking to expand share of export markets (possibly at the cost of profitability). Thus, as shown above, the United States

paper have been trending upward in both Europe and North America. The upswing in fibre markets was attributable in part to the upward trends in European and North American paper and paperboard production, but also attributable to a notable increase in global fibre demand.

Global fibre demand turned upward in 1999 in conjunction with economic recovery in the economies of Asia and Latin America. A number of new paper and

paperboard mills began operation recently in Asia, and more are scheduled to begin operation in the near future (particularly in China). Included among the new Asian mills are some of the largest and fastest paper machines in the world, such as the two large paper machines at the Gold East complex in Dagang, China, which began operation in 1999 and set a new world record for paper machine speed (PPI, February 2000). Many of the new mills are operating on the basis of imported market pulp

TABLE 12.3.1

Production of woodpulp in Europe, the Russian Federation and North America, 1996-1999  
(1,000 m.t.)

	1996	1997	1998	1999	Change 1998 to 1999	
					Volume	%
<b>MECHANICAL WOODPULP</b>						
EUROPE	11,744	13,173	13,486	13,234	-251	-1.9
of which:						
Finland	3,489	4,469	4,637	4,602	-35	-0.8
Sweden	2,753	2,959	3,026	3,029	3	0.1
Norway	1,502	1,534	1,664	1,644	-20	-1.2
Germany	1,133	1,220	1,191	1,192	1	0.1
France	757	845	762	760	-2	-0.2
Other countries	2,110	2,146	2,206	2,007	-199	-9.0
RUSSIAN FEDERATION	976	899	981	1,160	179	18.2
Canada	10,973	11,354	10,481	11,213	732	7.0
United States	5,918	5,401	5,291	5,110	-181	-3.4
NORTH AMERICA	16,891	16,755	15,772	16,323	551	3.5
<b>CHEMICAL WOODPULP <sup>a</sup></b>						
EUROPE	23,983	26,055	26,367	26,864	497	1.9
of which:						
Sweden	7,413	7,857	7,842	7,983	141	1.8
Finland	6,296	7,241	7,339	7,608	269	3.7
France	1,762	,985	1,913	2,000	87	4.5
Portugal	1,595	,703	1,708	1,755	47	2.8
Spain	1,409	,546	1,545	1,618	73	4.8
Austria	1,206	,251	1,274	1,319	45	3.5
Poland	820	828	856	825	-31	-3.6
Norway	840	900	829	782	-47	-5.7
Germany	719	763	782	715	-67	-8.6
Czech Republic	412	453	490	504	14	2.9
Slovakia	246	181	339	374	35	10.3
Other countries	1,265	1,347	1,450	1,381	-69	-4.8
RUSSIAN FEDERATION	2,841	2,851	3,010	3,922	912	30.3
Canada	13,625	13,795	13,363	14,400	1,037	7.8
United States	54,413	54,964	54,233	53,261	-972	-1.8
NORTH AMERICA	68,038	68,759	67,596	67,661	65	0.1

<sup>a</sup> Including semi-chemical woodpulp and dissolving grades.

Source: ECE/FAO TIMBER database, 2000.

(in the case of paper mills) or on the basis of recycled fibre (often imported fibre in the case of paperboard mills). Among new Asian mills are several new linerboard mills in China that will use recycled fibre, including imported old corrugated containers. Although much of the imported market pulp for Asian mills comes from sources in Asia, such as from pulp mills in Indonesia, growing fibre demands in Asia and Latin America have placed new demand pressures on global fibre markets. Producers of paper or paperboard in Asia and Latin America have also obtained market pulp and recovered paper directly from North American and Europe in some cases (PPI).

European pulp production rose very slightly (+0.5%) to reach 40 million m.t. Production of mechanical pulp fell by nearly 2%, with decreases around 1% in Finland and Norway. At least in the former country, this was part of a long term strategy to move towards the industry's perceived strengths, which are seen as being in wood free papers, based on chemical pulp. Chemical pulp production in Europe rose by less than 2%, with faster growth in France and Spain and declines in Poland, Norway and Germany.

The slower growth of pulp production in Europe than of production of paper and paperboard is attributable to increased pulp imports from other regions, but also to the continuing growth in importance of recovered fibre.

The world market price for pulp remained stable from early 1996 to mid 1999, at about \$460 to 580 (per ton of Northern Bleached Softwood Kraft (NBSK) - the benchmark grade). This period of relative stability followed the severe price peak in 1995 to 1996 when the price first rose to nearly \$1000, then fell to about \$450 in a few months. However in mid 1999, demand strengthened after the Asian crisis, capacity growth slowed and stocks (inventories) were brought down. By May 2000, NORSCAN (North American and Scandinavian) stocks of market pulp were only slightly over 1 million m.t., a very low level in historical terms. As a result pulp prices rose. In July 2000, market pulp prices were around \$700. However the cost of pulp to buyers outside the dollar area is also influenced by exchange rates, notably the euro's fall against the dollar. Thus pulp costs for European buyers are beginning to approach the levels experienced in 1995, with the combined effect of the rise in pulp prices and the fall in the euro. As Europe is perhaps the pivotal part of the global pulp market, this could exert downward pressure on the pulp price in the future.

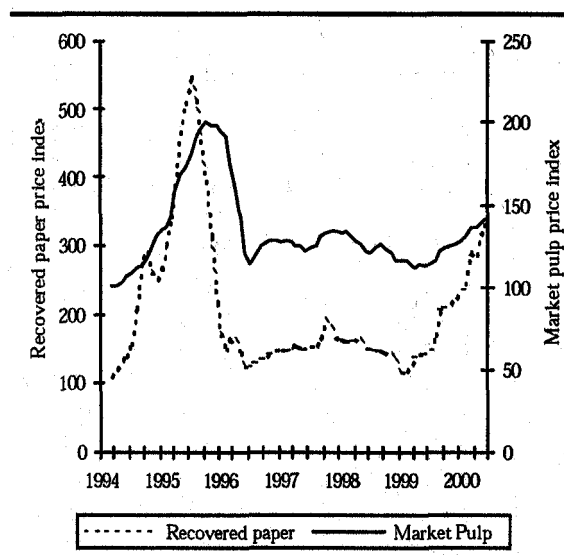
According to data from CEPI, European paper and paperboard products on average contain 85.5% fibrous material, mostly wood fibre (including 45.0% virgin pulp, 39.8% recycled fibre from recycled paper, and 0.7% other

pulp fibre) and also 14.5% non-fibrous materials (mainly clay coatings and pigments). The recovery of paper for recycling in western Europe reached 49.4% of total paper and paperboard consumption in 1998 according to estimates for CEPI member countries.

In the United States, production of wood pulp also declined in 1999, by 2.0% between 1998 and 1999, dropping from 59.5 million m.t. to 58.4 million m.t., as United States imports of pulp increased from 5.4 to 6.0 million m.t. and exports dropped from 5.0 to 4.9 million m.t. The net supply of wood pulp for domestic paper and paperboard production dropped by less than 1% from 59.9 to 59.5 million m.t. Recovery of paper for recycling in the United States increased by 2.1 million m.t., reaching a record level of 42.9 million m.t. according to AF&PA. The United States recovery rate increased to 45.0% from 44.5% according to AF&PA. The upswing in fibre markets is illustrated by trends in average price indexes for market pulp and recovered paper in the United States, as shown in graph 12.3.1.

GRAPH 12.3.1

United States average price indices for market pulp and recovered paper, 1994-2000



Source: United States Bureau of Labor Statistics, 2000.

Ince, Peter J.; Prins, Kit. 2000. Paper, paperboard and woodpulp—production, consumption and trade. In: UN-ECE/FAO forest products annual market review 1999–2000. Geneva, Switzerland: United Nations Publications: 147–156, Chapter 12.