

CHAPTER 8

WOOD-BASED PANELS SUPPLY TRADE AND CONSUMPTION

Highlights

- *European* consumption of wood-based panels, mainly particle board, increased in 1997 to record levels.
- In *North America*, consumption expanded slightly in 1997 at a much slower pace than in 1996.
- In the *Russian Federation* wood-based panels consumption has declined sharply by 70% since 1992, but thanks to active export markets, production showed an upturn in 1997.
- Production of OSB continued to increase in *North America*; as OSB capacity expands faster than demand the result has been a steep fall in prices.
- *United States* apparent consumption of plywood fell as a result of major production decreases and rapid substitution by OSB.
- During 1997 developments in the tropical hardwood plywood sector have been dominated by the Asian crisis.
- Apparent consumption of MDF in *Europe* was 0.94 million m³ higher than in 1996

8.1 Overview

Wood-based panels consumption in *Europe* increased by 6.9% in 1997 following the slight drop of 1.9% in 1996, to the record level of 44.68 million m³ (table 8.1.1). Important production increases were recorded in many countries, and export markets were active. Since the depressed year of 1992, apparent consumption has increased by 19%. However, the overall economic activity and the demand from end use sectors still needs to strengthen for a sustained growth of the industry. Particle board is the main panel in Europe with 72.6% of total consumption, of which oriented strand board (OSB) now represents some 2%, followed by fibreboard 13.9%, of which medium density fibreboard (MDF) is estimated at some 84%, and plywood 13.5%.

In *North America*, consumption expanded slightly by 1% in 1997 to 48.52 million m³, at a much slower pace than in 1996 when it increased by 8.1%. Continued fallback of softwood plywood production and consumption has been offset by increases of OSB and at a lesser extent of MDF. The oversupply situation of OSB which occurred in 1996, when capacity developed faster than demand, has continued.

OSB prices recovered moderately by the end of 1997, but then dropped again in 1998.

Wood-based panels consumption in the *Russian Federation* slightly dropped in 1997 by 1.4%, compared to the 26.3% decline in 1996, to 2.13 million m³. The sharp decline in consumption since 1992 is equivalent to 70%.

8.2 Particle board

Particle board apparent consumption in *Europe* increased by 8.4% to 32.4 million m³ (graph 8.2.1, table 8.2.1). Production also increased by almost the same proportion, 8.5%, attaining the level of 34 million m³. In the major producer countries, Germany, France and Italy, production increased by 7.1%, 8.5% and 24.7%, respectively (graph 8.2.2, table 8.2.2). In Poland, where 90% of the production is used by the furniture industry, it expanded by 16.8%. In Turkey

respectively, where the increase was absorbed by domestic markets.

trend, increasing by 8.0% and 7.3%. Most countries

expanded exports with the main exception of the United Kingdom where they fell by 22.4% due to a strong internal demand. Italy and Poland also show major import increases, 89.4% and 44%. The data also show that Europe as a whole is a net exporter of particle board in the order of 1.5 million m³. The main markets are the Far and Middle East.

Particle board production in the *Russian Federation* showed a slight increase of 0.7% to 1.5 million m³ in 1997, following steep fallbacks in the previous years. However, this was due to an expansion of exports while apparent consumption further dropped by 4.3%.

In 1997, in *North America* apparent consumption of particle board as a whole continued the steady increase since 1992 and reached 23.6 million m³, or 40.3% over the same period. This is mostly due to the expansion of the OSB industry.

Particle board production, excluding OSB, (table 8.2.3), increased in Canada and the United States by 11% and 1.4%, respectively. United States imports were up 8.4% from 1996 levels, they originate in the other North American Free Trade Agreement (NAFTA) countries, Canada and Mexico.

TABLE 8.1.1

Apparent consumption of wood-based panels (excluding veneer sheets) in Europe, the Russian Federation and North America, 1993 to 1997

	Volume					Per cent of total	
	1993	1994	1995	1996	1997 ^a	1993	1997 ^a
	(million m ³)						
EUROPE							
Particle board	27.35	27.96	30.25	29.93	32.43	72.4	72.6
Plywood	5.97	6.18	6.41	5.90	6.05	15.8	13.5
Fibreboard	4.47	4.69	5.95	5.95	6.20	11.8	13.9
Total	37.79	38.83	42.61	41.78	44.68	100.0	100.0
Change on previous year							
- Volume		1.04	3.78	-0.83	2.90		
- Per cent		2.8	9.7	-1.9	6.9		
RUSSIAN FEDERATION							
Particle board	3.90	2.61	2.04	1.37	1.31	70.0	61.5
Plywood	0.59	0.33	0.27	0.37	0.36	10.6	16.9
Fibreboard	1.08	0.67	0.62	0.42	0.46	19.4	21.6
Total	5.57	3.61	2.93	2.16	2.13	100.0	100.0
Change on previous year							
- Volume		-1.96	-0.68	-0.77	-0.03		
- Per cent		-35.2	-18.8	-26.3	-1.4		
NORTH AMERICA							
Particle board	18.10	19.05	18.66	22.04	23.61	40.9	48.7
Plywood	18.86	19.19	18.90	18.89	17.74	42.6	36.6
Fibreboard	7.30	7.51	6.87	7.09	7.17	16.5	14.7
Total	44.26	45.75	44.43	48.02	48.52	100.0	100.0
Change on previous year							
- Volume		1.49	-1.32	3.59	0.50		
- Per cent		3.4	-2.9	8.1	1.0		

^a Preliminary.

TABLE 8.2.1

Particle board (wood and non-wood) balance in Europe, the Russian Federation and North America, 1993 to 1997
(million m³)

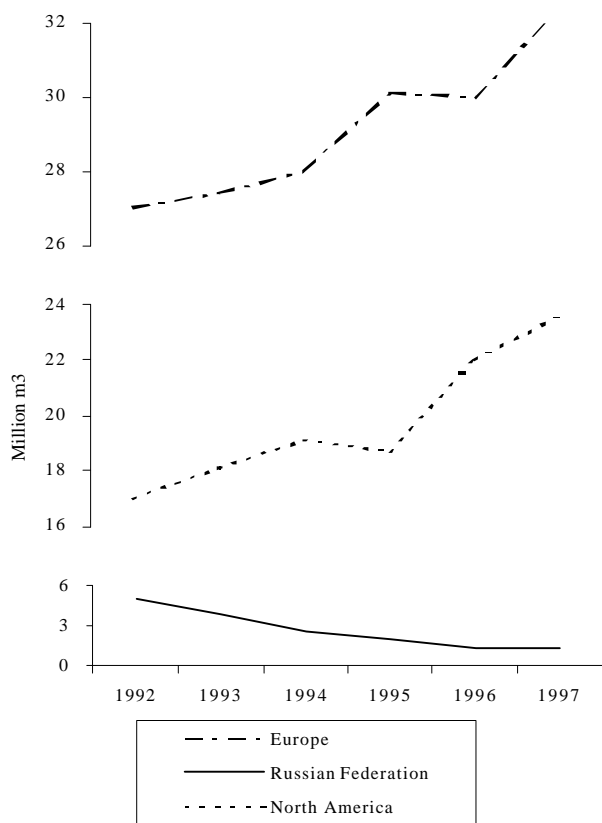
	1993	1994	1995	1996	1997 ^a	Timber Committee estimates ^b	
						for 1997	for 1998
EUROPE							
Production	27.35	28.87	30.88	31.34	34.00	31.93	32.44
Imports	6.21	6.69	7.20	6.99	7.50	6.73	6.55
Exports	6.21	7.60	7.83	8.40	9.07	8.54	8.64
Net trade ^c	-	0.91	0.63	1.41	1.57	1.81	2.09
Apparent consumption	27.35	27.96	30.25	29.93	32.43	30.12	30.35
RUSSIAN FEDERATION							
Production	3.94	2.63	2.21	1.47	1.48	1.41	1.51
Exports	0.04	0.02	0.17	0.10	0.17	0.11	0.12
Apparent consumption	3.90	2.61	2.04	1.37	1.31	1.30	1.39
NORTH AMERICA							
Production	18.52	19.16	19.74	22.74	24.22	24.74	25.82
Imports	3.05	3.79	3.72	4.66	5.67	5.33	5.73
Exports	3.47	3.90	4.80	5.36	6.28	6.13	6.60
Net trade ^c	0.42	0.11	1.08	0.70	0.61	0.80	0.87
Apparent consumption	18.10	19.05	18.66	22.04	23.61	23.94	24.95

^a Preliminary.

^b From the Timber Committee's October 1997 session, adjusted for compatibility with historical (actual) data.

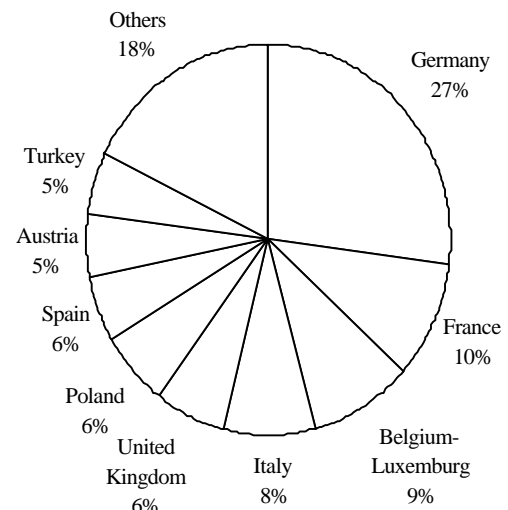
^c Negative values are net imports.

GRAPH 8.2.1
Consumption of particle board, 1992 to 1997



Source: UN/ECE TIMBER database

GRAPH 8.2.2
Production of particle board, 1997 (Europe)



Source: UN/ECE TIMBER database.

TABLE 8.2.2
Production and trade of particle board (including non-wood), 1994 to 1997

	1994	1995	1996	1997 ^a	Change 1996 to 1997	
					Volume	Per cent
(1000 m ³)						
PRODUCTION						
EUROPE	28867	30880	31341	33999	2659	8.5
Germany	8639	8902	8584	9190	606	7.1
France	2567	2733	3030	3289	259	8.5
Belgium-Luxembourg	2400	2876	3087	3087	...	...
Italy	2202	2450	2205	2750	545	24.7
United Kingdom	1803	2118	2164	2175	11	0.5
Poland	1336	1466	1747	2041	294	16.8
Spain	1730	1863	1970	1970	...	...
Austria	1666	1700	1700	1771	71	4.2
Turkey	898	1243	1193	1728	535	44.8
Czech Republic	536	587	635	737	102	16.1
Portugal	757	650	695	695	...	...
Sweden	609	632	577	612	35	6.1
Finland	477	475	605	603	-2	-0.3
Switzerland	656	564	530	501	-29	-5.5
Other countries	2591	2621	2619	2851	232	8.8
RUSSIAN FEDERATION	2626	2206	1472	1483	11	0.7
Canada	4493	5309	6754	7954	1200	17.8
United States	14664	14429	15985	16263	278	1.7
NORTH AMERICA	19157	19738	22739	24217	1478	6.5
EXPORTS						
EUROPE	7604	7831	8401	9070	669	8.0
Belgium-Luxembourg	1872	1942	1930	2065	135	7.0
Germany	1320	1245	1296	1484	188	14.5
France	827	1000	1206	1252	46	3.8
Austria	909	1025	1134	1204	70	6.2
Switzerland	427	376	400	395	-5	-1.3
Czech Republic	220	230	312	381	69	22.1
Portugal	455	363	341	341	...	...
Spain	203	205	249	249	...	...
United Kingdom	190	254	255	198	-57	-22.4
Other countries	1182	1192	1278	1501	224	17.5
RUSSIAN FEDERATION	18	169	96	170	74	77.1
Canada	3447	4302	5198	6072	874	16.8
United States	457	496	158	205	47	29.7
NORTH AMERICA	3904	4798	5356	6277	921	17.2
IMPORTS						
EUROPE	6690	7201	6990	7498	508	7.3
Germany	1713	1755	1559	1546	-13	-0.8
United Kingdom	1167	1190	1185	1119	-66	-5.6
Netherlands	755	721	674	674	...	...
Italy	346	340	340	644	304	89.4
France	650	690	638	613	-24	-3.8
Poland	85	310	325	468	143	44.0
Spain	328	339	446	446	...	...
Denmark	316	306	290	290	...	...
Sweden	186	293	263	287	24	9.1
Other countries	1144	1257	1270	1410	141	11.1
Canada	231	230	301	261	-40	-13.3
United States	3557	3490	459	5410	1051	24.1
NORTH AMERICA	3788	3720	4660	5671	1011	21.7

^a Preliminary.

TABLE 8.2.3

**Particle board balance (excluding OSB)
in Canada and the United States in 1996 and 1997**
(1000 m³)

	1996	1997	Change in %
Canada			
- Production	2066	2294	11.0
- Imports	221	201	-9.1
- Exports	1069	1124	5.1
- Apparent consumption	1218	1371	12.6
United States			
- Production	7742	7852	1.4
- Imports	1183	1282	8.4
- Exports	158	205	29.7
- Apparent consumption	8767	8929	1.8

TABLE 8.3.1

**OSB balance in Canada and the United States
in 1996 and 1997**
(1000 m³)

	1996	1997	Change in %
Canada			
- Production	4688	5660	20.7
- Imports	80	60	-25.0
- Exports	4127	4948	19.9
- Apparent consumption	641	772	20.4
United States			
- Production	8243	8411	2.0
- Imports	3906	4666	19.5
- Exports	139	148	6.5
- Apparent consumption	12010	12929	7.7

8.3 Oriented strand board (OSB)¹

Production of OSB (excluding particle board) continued to increase in *North America* in 1997, by 20.7% in Canada and by 2% in the United States (table 8.3.1). Apparent consumption in the United States expanded by 7.7% due to increased imports from Canada. As OSB capacity expanded faster than demand, a steep fall in prices occurred in 1996 and continued until the first quarter of 1997 when the lowest level was recorded at \$120 according to Random Lengths (graph 8.3.1). Prices somewhat strengthened during the rest of 1997, but were falling again in 1998.

European OSB production is estimated to have reached some 800 thousand m³ in 1997, though the volumes may still appear modest, this represents a 60% increase from 1996. As the newly installed mills in Ireland, Luxembourg and Poland reach optimum capacity utilization, production is expected to continue to expand.

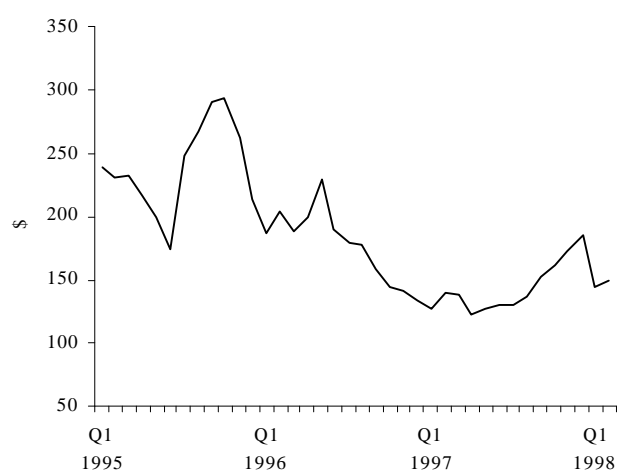
8.4 Plywood

Apparent consumption of plywood in *Europe* increased slightly in 1997 by 2.5% to 6.05 million m³ (graph 8.4.1, table 8.4.1). Production rose by 2.2% to 3.8 million m³. The main producer, Finland increased output by 118 thousand m³ to 987 thousand m³.

¹ According to the FAO classification OSB is included in particle board. However because of the importance of the product and because separate data are available for OSB, this product is examined separately.

GRAPH 8.3.1

Oriented strand board* prices, 1995 to 1998



*Prices FOB mill for 7/16-inch thick, 1000 square feet, from North Central United States.

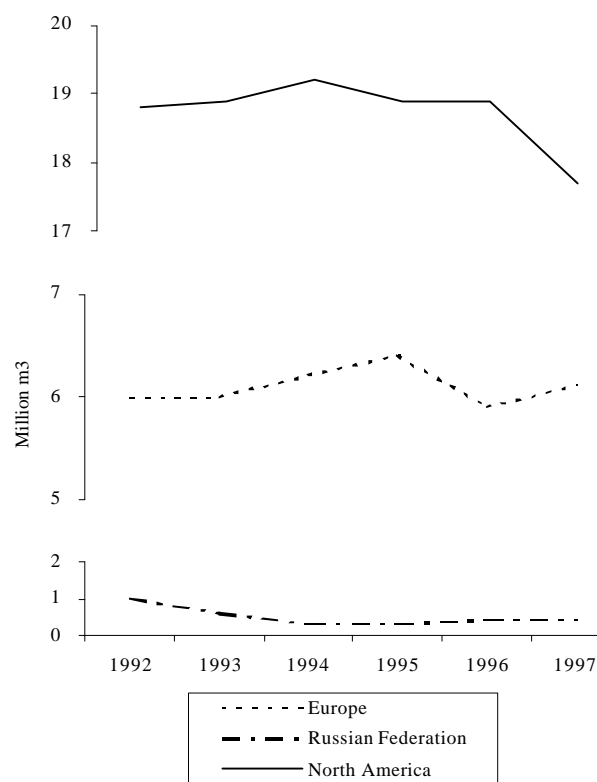
Source: Random Lengths, 1998.

Germany was the only country to show a major fallback, of 23.4% (table 8.4.2). Exports rose faster than production, by 7.8% to 2.2 million m³. Of the European total exports, 38.5% were by Finland, 80% of this goes to European Union markets. European plywood imports progressed by 5.3% in 1997 to 4.5 million m³. The only major importer to show a fallback in imports was the United Kingdom. Imports dropped to 947 thousand m³ or -16.3%, thus continuing a steady downward trend. In the period between 1990 and 1997 United Kingdom plywood imports fell by about 0.5 million m³.

In the *Russian Federation* production and exports of plywood in 1997 remained unchanged from 1996. Production amounted to 968 thousand m³, of which 615 thousand m³ were exported.

In *North America* apparent consumption fell by 6.1% in 1997 as a result of major production decreases in the United States, while in Canada there was practically no change from 1996. Production of plywood in the United States amounted to 16 million m³ or almost 1 million m³ less than in 1996. This is the result of diminishing resources and capacity in the West and continued developments in the structural panel sector, where the rapid growth of OSB production and capacity, faster than demand, has constrained plywood prices at a low level (graph 8.4.2). However, United States plywood exports, increased by 17.3% to 1.6 million m³, mainly to Europe. The major export markets for the United States in Europe were the United Kingdom, Germany, the Netherlands, Ireland, Belgium, Denmark and Italy.

GRAPH 8.4.1
Consumption of plywood, 1992 to 1997



Source: UN/ECE TIMBER database.

TABLE 8.4.1

Plywood balance in Europe, the Russian Federation and North America, 1993 to 1997
(million m³)

	1993	1994	1995	1996	1997 ^a	Timber Committee estimates ^b	
						for 1997	for 1998
EUROPE							
Production	3.30	3.67	3.64	3.67	3.75	3.80	3.87
Imports	4.33	4.42	4.56	4.31	4.54	3.84	3.95
Exports	1.66	1.91	1.79	2.08	2.24	2.15	2.15
Net trade ^c	-2.67	-2.51	-2.77	-2.23	-2.30	-1.69	-1.80
Apparent consumption	5.97	6.18	6.41	5.90	6.05	5.49	5.67
RUSSIAN FEDERATION							
Production	1.04	0.89	0.94	0.97	0.97	0.97	0.99
Imports	0.01	0.01	-	0.01	0.01	0.01	0.01
Exports	0.46	0.57	0.67	0.61	0.62	0.63	0.65
Net trade ^c	0.45	0.56	0.67	0.60	0.61	0.62	0.64
Apparent consumption	0.59	0.33	0.27	0.37	0.36	0.35	0.35
NORTH AMERICA							
Production	18.92	19.21	18.97	18.79	17.82	17.88	17.35
Imports	1.92	1.84	2.14	2.35	2.40	2.56	2.66
Exports	1.98	1.86	2.21	2.25	2.48	2.43	2.66
Net trade ^c	0.06	0.02	0.07	-0.10	0.08	-0.14	0.00
Apparent consumption	18.86	19.19	18.90	18.89	17.74	18.01	17.35

^a Preliminary.

^b From the Timber Committee's October 1997 session, adjusted for compatibility with historical (actual) data.

^c Negative values are net imports.

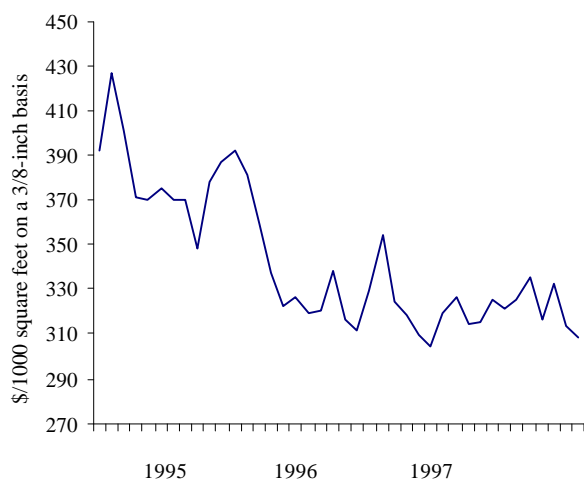
TABLE 8.4.2
Production and trade of plywood, 1994 to 1997

	1994	1995	1996	1997 ^a	Change 1996 to 1997	
					Volume	Per cent
	(1000 m ³)					
PRODUCTION						
EUROPE	3672	3635	3672	3751	80	2.2
of which :						
Finland	700	778	869	987	118	13.6
France	594	559	537	576	39	7.3
Italy	427	418	402	414	12	3.0
Germany	397	498	512	392	-120	-23.4
Spain	210	210	210	210	...	...
Austria	150	150	150	150	...	...
Poland	124	115	109	118	9	8.3
Sweden	85	108	119	113	-6	-5.0
Czech Republic	76	77	100	110	10	10.0
Israel	109	109	109	109	0	0.0
Other countries	800	613	555	572	18	3.2
Russian Federation	890	939	972	968	-4	-0.4
Canada	1834	1831	1814	1828	14	0.8
United States	17380	17140	16975	15987	-988	-5.8
North America	19214	18971	18789	17815	-974	-5.2
EXPORTS						
EUROPE	1915	1792	2077	2239	163	7.8
of which :						
Finland	627	668	794	861	67	8.4
France	193	183	214	223	10	4.5
Austria	158	130	150	166	16	10.7
Germany	131	149	135	135	...	...
Italy	108	96	117	125	8	6.8
Other countries	698	566	667	729	62	9.3
Russian Federation	568	670	612	615	3	0.5
Canada	511	818	870	859	-11	-1.3
United States	1346	1395	1384	1624	240	17.8
North America	1857	2213	2254	2483	229	10.2
IMPORTS						
EUROPE	4424	4556	4315	4544	230	5.3
of which :						
Germany	1003	1177	975	1083	108	11.1
United Kingdom	1202	1127	1132	947	-185	-16.3
Netherlands	560	552	522	522	...	...
Belgium-Luxembourg	267	146	215	313	98	45.6
Italy	257	323	295	312	17	5.8
France	234	260	256	310	54	21.1
Other countries	901	971	920	1057	138	15.0
Canada	288	353	424	428	4	0.9
United States	1547	1791	1930	1973	43	2.2
North America	1835	2144	2354	2401	47	2.0
Japan	4045	4394	5314	5326	12	0.2

^a Preliminary

GRAPH 8.4.2

North American structural panel composite price, 1994 to 1998



Source: *Random Lengths Export*, 1998.

8.5 Hardwood plywood

During 1997 developments in the tropical hardwood plywood sector have been dominated by the Asian crisis. At the beginning of the year sustained demand from Japan, China, Republic of Korea and other southeast Asian countries had stabilized prices following the trend of 1996 at \$450 to \$500 per m³ of Indonesian and Malaysian thin plywood. The weakening of Japanese and Korean currencies together with the rise of the consumption tax in Japan lowered plywood imports for 1997. The result was a rapid fall in plywood prices which was later amplified by the financial crisis in other southeast Asian countries which saw their currencies steadily devalue against the dollar. Plywood prices had fallen in May 1998 to half of the average level in 1997 as demand continues depressed in Japan and Korea, and China has also considerably reduced its imports due to a slowdown of its construction sector and a higher plywood domestic production. Southeast Asian exports did not expand further in North American and European markets. The result for the plywood industry in Indonesia and Malaysia has been an important rise in costs of imported inputs such as glue and also the substantial rise of short-term money lending which has soared.

Other effects of the crisis are the closure of mills and the resulting unemployment, the extent of which is yet too early to evaluate. The dismantling of the Indonesian plywood producers association, APKINDO, which is part of the negotiations with the IMF, now allows individual exporters to directly negotiate prices exported plywood, has further pulled

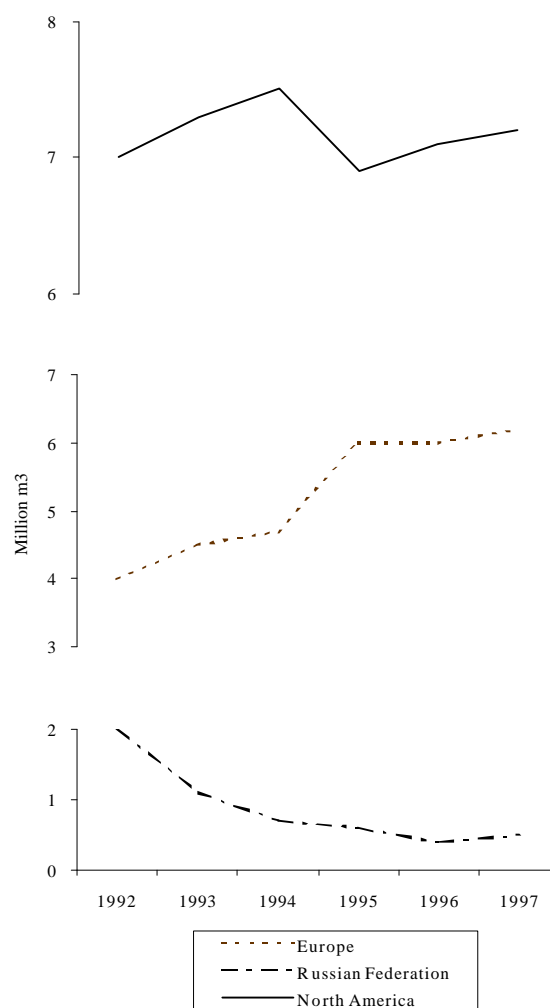
down prices. The Japanese plywood industries find it very difficult to compete with these cheap imports, and mill closures are feared. Important fallback in Indonesian and Malaysian exports are expected in 1998. (Note: further discussion of tropical plywood markets is found in Chapters 4 and 7.)

8.6 Fibreboard

In 1997 apparent consumption of fibreboard as a whole increased in Europe by 4.2% to 6.2 million m³ (graph 8.6.1, tables 8.6.1 and 8.6.2). At the time of writing the secretariat had not received data from several major producing countries notably Germany. According to the European Federation of Fibreboard Industries (FEROPA) and the Euro MDF Board (EMB) the increase in apparent consumption may have been in the order of 20%, mostly due to the continued expansion of MDF. According to FEROPA, both hardboard and insulating board production in Europe

GRAPH 8.6.1

Consumption of fibreboard, 1992 to 1997



Source: UN/ECE TIMBER database.

rose in 1997 by 1.7% and 6% respectively.

Production of fibreboard (including MDF) in *North America* in 1997 showed no change from 1996, remaining at 7.3 million m³. Production increases of MDF in both Canada and the United States were offset by equivalent drops of hardboard and insulating board.

In the *Russian Federation* apparent consumption of fibreboard rose to 460 thousand m³ or a 9.5% increase. Production increased in the same proportion, and exports maintained their 1996 levels.

8.7 Medium density fibreboard

Recorded production of MDF in *Europe*, including Germany, rose by 20.7% to 5.4 million m³, according to EMB, as newly installed mills attained

working capacity. Capacity utilization for the industry was 83.8%. Apparent consumption was 5.2 million m³ or 0.94 million m³ higher than in 1996, thus confirming the high market penetration potential of MDF in a favourable economic context. MDF exports to the Far East declined as a consequence of the Asian crisis, this was partially compensated by the emerging economies of eastern Europe which absorbed higher volumes.

In *North America* MDF production and consumption continued its upward trend in 1997. Production in the United States rose by 16.8% attaining 2.4 million m³. In Canada combined production of MDF and hardboard rose by 34.5% to 0.6 million m³ and MDF exports, mostly to the United States doubled at 0.3 million m³.

TABLE 8.6.1
Fibreboard balance in Europe, the Russian Federation and North America, 1993 to 1997
(million m³)

	1993	1994	1995	1996	1997 ^a	Timber Committee estimates ^b	
						for 1997	for 1998
EUROPE							
Production	4.55	4.94	6.02	6.10	6.45	6.24	6.36
Imports	2.09	2.48	2.78	3.14	3.76	3.14	3.14
Exports	2.17	2.73	2.85	3.29	4.01	3.50	3.60
Net trade ^c	0.08	0.25	0.07	0.15	0.25	0.36	0.46
Apparent consumption	4.47	4.69	5.95	5.95	6.20	5.88	5.90
RUSSIAN FEDERATION							
Production	1.16	0.77	0.75	0.59	0.63	0.60	0.62
Exports	0.08	0.10	0.13	0.17	0.17	0.18	0.18
Apparent consumption	1.08	0.67	0.62	0.42	0.46	0.42	0.44
NORTH AMERICA							
Production	7.63	7.87	7.23	7.31	7.32	7.83	7.94
Imports	0.55	0.70	0.73	0.94	1.27	1.09	1.15
Exports	0.88	1.06	1.09	1.16	1.42	1.43	1.41
Net trade ^c	0.33	0.36	0.36	0.22	0.15	0.34	0.26
Apparent consumption	7.30	7.51	6.87	7.09	7.17	7.49	7.68

^a Preliminary.

^b From the Timber Committee's October 1997 session, adjusted for compatibility with historical (actual) data.

^c Negative values are net imports.

TABLE 8.6.2
Production and trade of fibreboard, 1994 to 1997

	1994	1995	1996	1997 ^a	Change 1996 to 1997	
					Volume	Per cent
(1000 m ³)						
PRODUCTION						
EUROPE :						
Hardboard ^b	4209	5239	5338	5783	445	8.3
Insulating board	728	776	760	665	-95	-12.5
Total	4937	6015	6098	6448	349	5.7
of which :						
Germany	854	854	854	854	...	...
Poland	515	650	653	719	66	10.1
Italy	222	915	800	700	-100	-12.5
Spain	550	600	590	590	...	...
Turkey	120	131	301	574	273	90.7
France	483	477	483	555	72	14.9
United Kingdom	400	408	420	460	40	9.5
Portugal	336	387	387	387	...	...
Ireland	180	246	274	330	56	20.4
Other countries	1277	1347	1336	1279	-58	-4.3
Russian Federation	767	748	589	631	42	7.1
Canada	827	717	894	1056	162	18.1
United States	7044	6508	6415	6262	-153	-2.4
North America	7871	7225	7309	7318	9	0.1
EXPORTS						
EUROPE						
of which :						
Germany	325	320	522	718	196	37.5
Italy	427	400	411	574	163	39.7
France	311	320	338	370	32	9.5
Portugal	277	250	341	341	...	...
Poland	196	298	293	337	44	15.0
Belgium-Luxembourg	80	80	76	308	232	307.4
Other countries	1114	1185	1305	1363	58	4.5
Russian Federation	98	134	173	170	-3	-1.7
Canada	360	365	497	744	247	49.7
United States	700	727	664	675	11	1.7
North America	1060	1092	1161	1419	258	22.2
IMPORTS						
EUROPE						
of which						
United Kingdom	376	490	599	755	156	26.0
Germany	408	441	497	543	46	9.3
Spain	125	132	207	341	135	65.3
Netherlands	249	287	304	304	...	...
Italy	229	313	260	298	38	14.6
Belgium-Luxembourg	201	191	197	205	9	4.3
Other countries	888	925	1080	1312	232	21.5
Canada	164	154	164	157	-7	-4.3
United States	531	580	773	1109	336	43.5
North America	695	734	937	1266	329	35.1

^a Preliminary.

^b Including medium density fibreboard.