International Competitiveness of the German Sawmilling Industry

Steffen HABERBOSCH* and Masao KOIKE**

*The Doctor's course of the United Graduate School of Agricultural Science
Gifu University (Shinshu University)
**Division of Utilization of Forest Resources, Department of Forest Science
Faculty of Agriculture, Shinshu University

Summary. In recent years, the domestic production and the import volume of sawn timber from East Europe increased significantly. On the other hand, the German export volume of sawn timber is still comparatively low. Consequently, the German sawn timber market has become increasingly competitive. One possibility to relieve the home market is to strengthen the export efforts. However, participating in international markets is risky and requires a certain level of international competitiveness. Therefore, this study aimed at evaluating the present level of international competitiveness of the German sawmilling industry on the 10 largest import markets of sawn timber worldwide. Two parameters, market share in 1998 and market share growth between 1994 and 1998, were selected to indicate the international competitiveness. Further, the leading European sawn timber exporting countries, Finland and Sweden, were chosen for comparison. The research findings showed that almost all market shares were relative low in 1998. Therefore, it can be concluded on a relative low international competitiveness of the German sawmilling industry. However, even it started from a quite low level, the average annual market growth was quite favourable on several foreign markets between 1994 and 1998. Therefore, the German sawmilling industry seems to be on the right way to improve its international competitiveness, even there is still a long way to go.

Keywords: International competitiveness, sawmilling industry, Germany, import market

1. Introduction

Between 1960 and 1995, the number of German sawmills decreased from 6,257 to 2,487, whereas the production volume of sawn timber increased from 7.7 to 12.4 million (mio.) m³ in the same period. A classification of the sawmills according to their annual saw log input into four size classes showed this contradictory development to be a matter of structural change, which resulted mainly from the introduction of the chipping and canter chipping technologies within the last about two decades (Haberbosch S., Koike M., 2000; Lueckge F.-J., 1997). Furthermore, as a result of the new and highly productive processing technologies, the capacity of saw log processing per sawmill increased strongly and exceeded by far the local demand. Therefore, the sawmills had to change their former regional sales orientation into nation wide sales marketing. In consequence, the competition among the domestic sawmills increased drastically (Grefermann K., 1988). Besides this factor, an increase in import volume from East Europe and a comparatively low volume of sawn timber export resulted in an aggravation in competitive pressure on the German sawn timber market (Rettenmeier, J., 1999).

The volume of domestic sawn timber production was about 14.2 mio. m³ in 1999. This volume was the second highest among all European countries (EU 15) and 51% higher than in 1985 (ZMP, 2000). This considerable increase in production volume depended mainly on two factors, firstly on the introduction of the new processing technologies as mentionned before and secondly on the establishment of new sawmills with huge production capacities in East Germany after the reunification in 1990. The impact of the latter factor was especially very strong, because,

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besides that the processing capacities increased significantly, most of the new plants in East Germany obtained significant sums of subsidy money from the federal and state governments. Therefore, the competition between East and West German sawmills became unbalanced and the sawmills in west Germany had to face serious problems to be competitive (Heider, G., 1999).

Further, even the total volume of sawn timber import was quite stable in recent years, for example between 5.3 and 5.5 mio. m³ between 1997 and 1999, the provenance of imported sawn timber has been changing. The import volume from Sweden as the main foreign supplier decreased significantly from about 1.5 to1.0 mio. m³ between 1997 and 1999, whereas that from East-European countries, for example Belarus (+90%), Russia (+46%) and Czeck (+16%), increased greatly in comparison to 1998. The decrease in import volume from Sweden can be traced mainly to the fact that the new European currency “EURO” was rejected by the Swedish governnment. Therefore, since the Swedish currency “Krone” was very strong and the European currency in the opposite very weak recently, it became very difficult for Swedish companies to be competitive in Germany. The increase in sawn timber import volume from East-Europe on the other hand can be traced mainly to lower marginal costs concerning raw material and wages. Furthermore, the increase can be traced to the favourable development on the German wooden housing market, because most of the sawn timber from East Europe is used by the wooden housing industry (Sauerwein, P., 2000). It can be expected that a certain number of sawmills will be newly established in East European countries so that the competitive pressure from this side might even more increase in future (Rettenmeier J., 1999).

An appropriate way to relieve a highly competitive home market could be to increase the export volume (Sinclair S.A., 1992). For this reason, the German sawmilling industry is focusing on promising export markets recently. However, the volume of export is still comparatively low. In 1999 for example, the total export volume of sawn timber was about 2.4 mio. m³, which is compared to the volume of production and also to the total volume of import low (ZMP, 2000). Therefore, the volume of export is not able yet to relieve the home market decisively. In consequence, even the volume of sawn timber production is increasing in Germany, the yield margins are getting smaller. This symptom is called “Ertragskrise” in Germany.

In future, the German sawmills will have to think and act more globally. This becomes evident when focusing on the trends in the international sawn timber business. For example, an oversupply of sawn timber is forecasted in Europe until 2010. On the other hand, Asia will become the only region, where the supply of sawn timber will not be able to meet the demand. This will be the result mainly of the demographic development, because the increase in population is estimated to be about 450 mio. people in Asia in this period. Further, the economic growth in Asia and Latin America, but also in East Europe, is estimated to be overproportional in comparison to the world average in future. This will have a significant impact on the demand for wood products in these regions as well, because economic growth and consumption of wood products are closely related. Further, it is expected that Japan will increase its sawn timber imports in height of about 5 mio. m³ until 2010 (Pelkonen, A.). The supply of sawn timber most obviously will undergo grave changes too. So, for example, it is forecasted that the sawn timber net export of North-America will decline significantly until 2010 in height of about 10 mio. m³. Europe, especially north-and middle Europe, in contrary, is estimated to become a net sawn timber exporting region in height of about 10 mio. m³ until 2010. Further, the volume of sawn timber generating from plantations in South America and New Zealand is expected to increase considerably. Conclusively, the competition among the sawn timber suppliers will increase worldwide and especially in Europe (Pelkonen, A., 2000 ; Rettenmeier J., 2000). Therefore, it can be assumed that the German sawmilling industry most obviously will have to struggle hard in future as well to keep its actual market share in Germany as to increase its market share on foreign markets. Therefore, the concentration of the German sawmilling industry is expected to proceed also in future. The number of sawmills is estimated to be about 1,500 in the year 2010 and about 500 in the year 2020. On the other side, a sustainable and expanding source of saw logs, a high level of technical knowledge, highly skilled staff and an unified European market give some hope that the German sawmilling industry will be able to become more involved in international business activities in future. However, participating in new international markets is clearly more complicated and risky than participating in domestic or traditional ones and requires a certain level of international competitiveness. For this reason, this study is aspiring to evaluate the current level of international competitiveness of the German sawmilling industry on the most important sawn timber import markets.

2. Methodology

The proceeding can be classified into 3 steps : At first, the Swedish and Finish sawmilling industries will be introduced briefly. These two countries were selected for comparison, because they are the market leaders in Europe concerning the volume of sawn timber export. Then, the 10 countries with the highest total import volume of sawn timber worldwide in 1998 will be selected as target markets. Two criteria, market size in 1998 and market growth rate between 1994 and 1998, will be applied to indicate the attractiveness of these import markets. The latter criteria will be calculated as the arithmetic average of the annual relative changes in import volume between 1994 and 1998. The data applied generated from the country import statistics of various issues of the FAO Forest Products Yearbook serie. The data are related to the volume and not to the value of imported coniferous sawn timber so that inflation and currency problems have not to be taken into account.

Finally, a comparative analysis of the international competitiveness of the German, Swedish and Finish sawmilling industry on the selected import markets will be presented by determining the long-term growth in foreign import markets. This long-term growth on the other hand will be indicated by two criteria, on the one hand by the market share in 1998 and on the other hand by the average annual change in market share between 1994 and 1998. The latter was calculated as the arithmetic average of the annual changes in market share. The data applied are also related to volume and not to the value of sawn timber. The competitiveness of the German sawmilling industry in the domestic market will be calculated as the share of domestic volume of sawn timber production remaining in Germany (Production−Export) in relation to the total consumption volume of sawn timber in Germany (Production+Import−Export). Further, it is noteworthy that “Market” should be understood in the sense of import market and “sawn timber” in the sense of coniferous sawn timber.

3. The Finish and Swedish Sawmilling Industries in a brief Overview

The number of Finish sawmills was about 4,000 in 1995, of which 203 plants produced more than 10,000 m^3 of sawn timber per year. In other words, about 95% of the total number of sawmills produced less than 10,000 m^3 in 1995. On the other side, the 203 “big” sawmills processed about 92% of the available saw logs in the same year. This shows clearly that the Finish sawmilling industry is consisting basically of a high number of small scale enterprises, but dominated by a comparatively small number of companies with enormous processing capacities. For example, the 3 biggest enterprises alone manufactured about two thirds of the total volume of sawn timber in Finland in 1995. In the same year, about 13,000 people have been employed by the Finish sawmilling industry. The structure of the Swedish sawmilling industry is compared to that of the Finish slightly bigger in scale. In 1995, the total number of sawmills was about 2,300, of which 306 plants or 13% respectively manufactured more than 10,000 m³ of sawn timber per year. The 306 "big" sawmills manufactured about 97.5% of the total production volume of sawn timber and employed about 12,500 persons in 1995.

The Finish sawmilling industry covered about 90% of its demand for saw logs from private forests in 1995. This is not surprising, because about 66% of the Finish forests are in private hands. The Finish sawmilling industry itself is owning just about 8% of the total forest area. One more characteristic of Finish forestry practice is that the private forest owners in most of the cases are selling the standing crop to the sawmills, which are organizing as well harvesting as replanting of the logging site. In 1995, the volume of saw log input of the Finish sawmilling industry was about 22 mio. m³, of which 98% generated from domestic forests. Most of the saw logs processed in Finland are either spruce (53%) or pine (46%) saw logs. The saw log consumption of the Swedish sawmilling industry was about 31.6 mio. m³ in 1995, of which 99% generated from domestic forests. The share of spruce and pine saw logs amounted to 57% and 42%. About 15% of the saw logs generated from forests, which were owned by sawmills.

In Finland, the price for saw logs, which were sold as standing crop from private forest owners to the sawmilling industry was on an average about 198 Finmark in 1995 (65 DM/m³). The harvesting costs per m³ including the costs for wood skidding to the forest road amounted to about 51 Finmark or 17 DM/m³ in the same year. When calculating the saw log price in Sweden as the quotient between saw log value and volume in 1995, the average price should have been about 108 DM/m³. However, the transportation costs from the forest to the sawmill are included in this price. For comparison, the average saw log price in Baden-Wurttemberg and Bayern, two states in south Germany with the highest volume of logging in Germany, including skidding, but excluding consumption tax and transportation costs to the sawmill, amounted to 133 DM/m³ in 1995.

In 1995, the production volume of sawn timber was 9.4 mio. m³ in Finland. This means that the calculated rate of exploitation was 43% and the productivity per employee 723 m³. The average wage in the wood working industry was 19 DM/hour. The Swedish production volume of sawn timber in height of 14.9 mio. m³ in 1995 makes conclude on a rate of exploitation of 47% and on a productivity per employee of 1,165 m³. It is remarkable that about 90% of the sawn timber produced in Sweden was kiln dried, which was significantly higher than for example in Germany, where the share of kiln dried sawn timber amounted just to 15%.

As well the Finish as the Swedish sawmilling industry are strongly export oriented. The sawn timber export volume of the Finish sawmilling industry was about 7.4 mio. m³ in 1995, which is more than three quarters of the total volume of production. 49% of the exported sawn timber was made from spruce logs and another 45% from pine logs. The most important export destination was the British market, to which 16% of the total export volume were shipped. The German market ranked on the second place with a share of about 14%. It is remarkable that just 15 Finish sawmills exported sawn timber in 1995. The export volume of the Swedish sawmilling industry was 10.4 mio. m³ in 1995, which corresponds to 70% with regard to the total volume of sawn timber production. The Swedish sawn timber export destinations are similar to those of Finland, as Great Britain was the most important export destination with a share of about 24%, followed by Germany with a share of 16% (Lueckge, F.-J., 1998).

4. The Target Markets

The 10 countries that were selected as target markets are : USA, Japan, United Kingdom, Italy, Germany, The Netherlands, Egypt, Denmark, France and Spain (see Table 1).

The USA showed clearly the highest volume of sawn timber import among all 10 countries in height of about 43.6 mio. m³ in 1998, which was almost the half of the total sawn timber imports worldwide. The average annual growth rate in import volume between 1994 and 1998 was 3.3%, which is equivalent to an annual increase in import volume of about 1.3 mio. m³. These two figures make the attractiveness of the US-market for foreign suppliers evident. However, Canadian suppliers are clearly dominating on the US market. In 1998 for example, 96.6% of the total import volume of sawn timber generated from Canada, which makes the competitive strength of the Canadian sawmilling industry on the US sawn timber import market evident (Food and Agriculture Organization FAO, Forest Products Yearbook 1998).

The Japanese import volume of sawn timber in height of about 6.7 mio. m³ was the second highest after that of the USA in 1998. The import volume showed a quite stable growth between 1995 and 1997. However, in 1998, as a result of the economic crisis in Asia, the Japanese import volume decreased drastically in height of 37.9% that even the average annual growth rate for the whole research period became negative (−5%).

In 1998, the total consumption volume of coniferous sawn timber in the United Kingdom was about 8.4 mio. m³, of which 75%, which is equivalent to a volume of about 6.5 mio. m³, generated from imports. This import volume was the highest among all European countries, which makes the attractiveness of this market for foreign suppliers, especially for European suppliers, evident. The annual average growth rate of the British sawn timber imports between 1994 and 1998, however, was negative (−2.8%, see Table 1).

In 1998, the most attractive middle European import market for sawn timber with regard to market size was that of Italy. The volume of import amounted to about 5.3 mio. m³, therewith 400,000 m³ higher than that of Germany (4.9 mio.

Table 1

The 10 most important sawn timber import markets with regard to import volume in 1998 and growth rate between 1994 and 1998

	Import volume in 1994 (in 1,000m³)	Import volume in 1995 (compared to 1994 in %)	Import volume in 1996 (compared to 1995 in %)	Import volume in 1997 (compared to 1996 in %)	Import volume in 1998 (compared to 1997 in %)	Growth Rate 1994 – 1998 annually in %	Import volume in 1998 (in 1,000m³)	Change 1994–1998 (in %)
USA	38,288	+6.0	+5.9	−1.1	+2.5	+3.3 (4.)	43,572 (1.)	+13.8
Japan	9,082	+10.2	+3.1	+4.6	−37.9	−5.0 (10.)	6,705 (2.)	−26.2
United Kingdom	8,170	−38.4	+6.9	+20.7	−0.2	−2.8 (8.)	6,481 (3.)	−20.7
Italy	4,839	−4.3	+1.0	+10.1	+2.5	+2.3 (5.)	5,274 (4.)	+9.0
Germany	5,323	−13.8	−2.1	+17.6	−7.8	−1.5 (7.)	4,867 (5.)	−8.6
Netherlands	3,066	−13.7	+3.5	+5.5	+0.4	−1.1 (9.)	2,900 (6.)	−5.4
Egypt	1,570	+52.4	−24.4	+20.2	+2.8	+12.8 (1.)	2,237 (7.)	+42.5
Denmark	2,278	−18.0	−15.1	+42.2	−2.5	+1.7 (6.)	2,197 (8.)	−3.6
France	1,625	−3.9	+13.0	+4.2	+13.8	+6.8 (3.)	2,097 (9.)	+29.0
Spain	1,040	+7.7	+1.3	+12.3	+17.2	+9.6 (2.)	1,494 (10.)	+44.0
World total	89,668	−1.6	+2.9	+6.4	−1.8	+1.5	94,831	+5.8

Source : Food and Agriculture Organization (FAO), Forest Products Yearbook 1998 (1994–1998).
( ) = Country related ranking concerning annual growth rate between 1994 and 1998 and import volume in 1998.

m³), more than double as high than that of the Netherlands (2.9 mio. m³) and more than three times higher than that of France (2.1 mio. m³). The market growth of the Italian import market in height of 2.3% was also comparatively high and was overtopped only by that of France, which was about 6.8% in the same period. However, as already mentionned above, the market size of France is much smaller compared to that of Italy. Thus, the high market growth is relativated. Germany and The Netherlands showed a negative market growth in height of −1.5% and −1.1% respectively in the research period. However, these two markets can be looked upon as attractive too. This is mainly, because the decrease was comparatively low in both cases. Further, in case of the German sawn timber import market, the attractiveness can be traced to the market size, which is ranking third in Europe. The market size of The Netherlands was not so high in 1998, but it is showing a positive growth since 1996.

The market size of Egypt is not very big, just about 2.2 mio. m³ in 1998, but it showed the strongest market growth among all 10 countries between 1994 and 1998 in height of 12.8%. Denmark showed a comparatively low total volume of import in 1998 in height of about 2.2 mio. m³, but at least the annual growth rate was positive and amounted to +1.7%. However, this was the result of a very strong increase in height of 42.2% in just one year, in 1997. Basically, the growth trend was negative between 1994 and 1998.

Spain became an increasingly attractive import market in recent years, even the market size was comparatively small, just about 1.5 mio. m³ in 1998. However, it showed the second highest growth rate among all 10 countries in height of 9.6%. Furthermore, the growth was quite stable and constant in the whole research period.

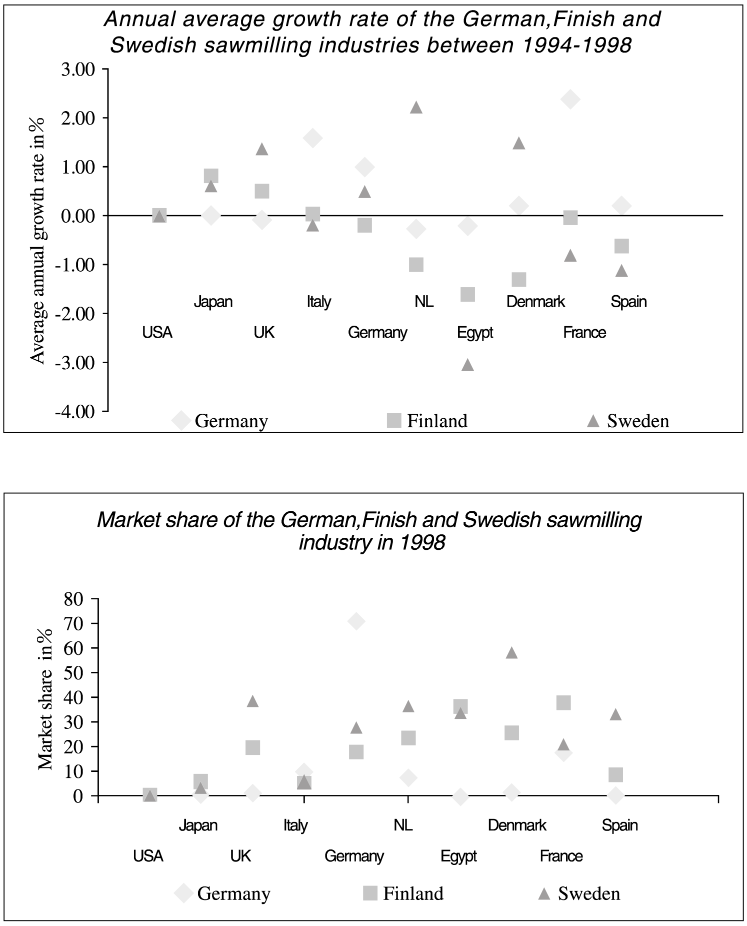
5. International Competitiveness of the German Sawmilling Industry in Comparison to that of Sweden and Finland

5.1 Sawmilling Industry (Country) related View

Between 1994 and 1998, the German sawmilling industry showed the strongest annual average growth on the French (+2.4%), Italian (+1.6%) and domestic (+1.0%) markets (see Figure 1). As a result, the market share with regard to the total volume of consumption rose from 67 to 71% in Germany (see Figure 2). Further, the French market became clearly the most important export destination for the German sawmilling industry. This is illustrated by a market share that increased for more than two times from 8.4 to 17.9% between 1994 and 1998 (see Figure 2). The market share on the Italian market increased significantly too for almost three times from 3.3 to 9.7% (see Figure 2). A slight increase in market growth could be determined in Spain (+0.2%), Denmark (+0.2%) and Japan (+0.03%) so that the market position in these countries improved slightly (see Figure 1). The growth rate in Egypt (−0.25%), in the Netherlands (−0.15%) and in the United Kingdom (−0.1%) was negative (see Figure 1). In consequence, The Netherlands lost its position as the most important export destination in favour to France (see Figure 2). Further, the market shares in the United Kingdom and in Egypt, which were already very low in 1994, decreased further until 1998 (see Figure 2). The German export volume of sawn timber to the USA was so insignificant in comparison to the total import volume of the USA that market share and market growth could not be indicated.

The Finish sawmilling industry showed the strongest annual average growth in market share in the Japanese and British market. However, this increase was comparatively low as it amounted to just 0.8 and 0.5% respectively. Consequently, the market share rose from 2.6 to 5.8% and from 17.8 to 19.7% in Japan and in Great Britain respectively. A very slight increase in annual market growth could be determined in the Italian market in height of 0.03%. A slight decrease was notable on the French (−0.03%) and German market (−0.2%). A quite strong decrease in market growth could be determined in Egypt (−1.6%), in Denmark (−1.3%), in The Netherlands (−1.0%) and in Spain (−0.6%). The Finish sawmilling industry is holding significant market shares on 6 foreign import markets, which are: France (37.6%),

Figure 1 and 2　Average annual growth rate and market shares on the target markets.



Source : Food and Agriculture Organization (FAO), Forest Products Yearbook, various issues.

Egypt (36.6%), Denmark (26.0%), The Netherlands (24.0%), United Kingdom (19.7%) and Germany (17.9%) (see Figures 1, 2).

A strong average annual market growth of the Swedish sawmilling industry could be determined in several markets between 1994 and 1998. These are : The Netherlands (+2.2%), Denmark (+1.5%), the United Kingdom (+1.4%), Japan (+0.6%) and Germany (+0.5%). Besides this strong market growth, the Swedish sawmilling industry is holding on these markets also significant market shares between 28.2 and 58.5%. The market position in Denmark can be considered as dominant as the market share is amounting to 58.5%. Concerning Japan, the market share of the Swedish sawmilling industry is still comparatively low, about 4.3%. However, it is steadily growing (see Figures 1, 2). The market share on the French, Egyptian and Spanish market was considerable too, but the market growth was negative in height of −0.8%, −3.0% and −1.1%. The penetration of the Italian market is comparatively low as the market share was just 5.2% in 1998. Since the annual average market growth was negative (−0.2%), it can be assumed that the market share will not increase significantly in near future. The export volume to the USA was also too low to be indicated (see Figure 1, 2).

5.2　Target Market related View

As well the German as the Finish and Swedish sawmilling industries show a very low competitiveness on the US-market, as the market share in 1998 and also the market growth between 1994 and 1998 of all three countries were too low in comparison to the huge total import volume of the USA to be indicated (see Figures 1, 2).

The German sawmilling industry disposed of the lowest competitiveness on the Japanese market compared to that of Finland and Sweden. The market share in 1998 was just 0.4%. Also the average market growth was insignificant and amounted just to 0.03% per year. The Finish sawmilling industry was the most competitive one in Japan in 1998. As well market growth as market share overtopped slightly that of the Swedish sawmilling industry (see Figures 1, 2).

The German sawmilling industry showed a very low competitiveness on the British market, which is, as determined before, one of the most attractive European sawn timber import markets. The market share was just 1.1% in 1998 and also the market growth was negative between 1994 and 1998 (−0.1%).The Swedish sawmilling industry, however, was holding a high market share of 39% in 1998 and also the market growth per year was considerable between 1994 and 1998 (1.4%). Market share and growth rate of the Finish sawmilling industry are lower compared to that of the Swedish, but much more favourable than that of the German sawmilling industry. Thus, the Swedish sawmilling industry is clearly the most competitive one, followed by that of Finland. The German sawmilling industry is ranking third (see Figures 1, 2).

The Italian market is the only one, besides the domestic one, where the German sawmilling industry showed the highest competitiveness. Especially the growth rate in height of 1.6% was significantly higher than that of the Finish and Swedish sawmilling industry, which amounted to just +0.03 and −0.2% respectively. The market share of the German sawmilling industry in Italy in height of 9.7% was about two times higher than that of Finland and Sweden (see Figures 1, 2).

The German sawmilling industry was clearly the most competitive one on the domestic market. About 71% of the total demand for sawn timber in Germany was covered by domestic production in 1998. The market share of the Finish and Swedish sawmilling industries with regard to the German sawn timber import market was 18 and 28% respectively. Also the growth rate of the Swedish sawmilling industry was significantly higher than that of the Finish one. Therefore, it can be concluded that the Swedish sawmilling industry is more competitive than the Finish sawmilling industry on the German market (see Figures 1, 2).

The Swedish sawmilling industry shows as well the highest market share (36.8%) as the highest growth rate (+2.2%) in the Netherlands and therefore can be considered as the most competive one on this market. The Finish sawmilling industry disposed also of a quite high market share in height of 24%, but the growth rate was negative (−1.0%). The market share of the German sawmilling industry was 7.8% in 1998 and the growth rate was −0.25. These figures show that the German sawmilling industry is less competitive than the Finish or Swedish sawmilling industries in The Netherlands (see Figures 1, 2).

Concerning the Egyptian market in 1998, the German sawmilling industry showed the lowest competitiveness, because as well the market share as growth rate were very low. The competitiveness of the Finish and Swedish sawmilling industry is much higher, mainly because they disposed of a comparatively high market share in height of 36.6% and 33.8% respectively. However, their growth rate between 1994 and 1998, especially that of Sweden, was negative (see Figures 1, 2).

Market share and growth rate of the German sawmilling industry were also very low on the Danish market. Thus the competitiveness is low, much lower than that of Sweden, which showed a market share of 58.5% in 1998 and a growth rate of 1.5% per year between 1994 and 1998. The Finish sawmilling industry also showed a comparatively high market share in height of 26%, but the growth rate was −1.3%. However, since the market share is much higher than that of the German sawmilling industry, it is much more competitive on the Danish market (see Figures 1, 2) .

The market share of the German sawmilling industry in France in height of 17.9% was the lowest in 1998 in comparison to that of Finland or Sweden, but on the other hand, the growth rate in height of 2.4% was clearly the highest among the three countries. The growth rate of Finland was – 0.03% and that of Sweden was −0.8%. These figures show that the German sawmilling industry became more competitive in recent years in France. If this tendency will proceed in the same way also in future, the market share of the German sawmilling industry could overtop that of Sweden in near future (see Figures 1, 2).

The situation on the Spanish market was a little bit similar to that on the French described above, as the market share of the German sawmilling industry was clearly lower, but the growth rate higher than that of the Finish and Swedish sawmilling industries. However, it is evident that the German sawmilling industry is still less competitive than the Finish or Swedish, because the gap in market share is very significant (see Figures 1, 2).

6. Summary and Discussion

The competition on the German sawn timber market has been increasing greatly in recent years as the result of an increase in domestic production, a higher import volume from East Europe and a comparatively low volume of German sawn timber export. Further, future trends in international sawn timber business will surely have a deep impact on the German sawmilling industry too. For example, until 2010, there will be an oversupply of sawn timber in Europe, and Asia will become the only region, where the supply of sawn timber will not be able to meet the demand. The supply of sawn timber most obviously will undergo grave changes too. So, for example Europe is estimated to become a net sawn timber exporting region in height of about 10 mio. m^3 until 2010. Further, the volume of sawn timber generating from plantations in South America and New Zealand is expected to increase considerably too. Conclusively, the competition among the sawn timber suppliers will increase worldwide, but especially in Europe. Conclusively, the German sawmills will have to think and act more globally, which necessitates a certain level of international competitiveness. Therefore, the target of this study was to identify the existing level of international competitiveness of the German sawmilling industry in comparison to that of the Finish and Swedish sawmilling industries on the 10 most important sawn timber import markets. Two criteria, market size in 1998 and market growth rate between 1994 and 1998, have been chosen to indicate the attractiveness of these import markets. Then, a comparative analysis of the international competitiveness of the German, Swedish and Finish sawmilling industry on the selected import markets has been undertaken. Long-term growth in foreign import markets, indicated by the market share in 1998 and by the average annual change in market share between 1994 and 1998, was the decisive criteria to determine international competitiveness.

Between 1994 and 1998, the German sawmilling industry showed the strongest annual average growth on the French (+2.4%), Italian (+1.6%) and domestic (+1.0%) markets. As a result of this growth, the position on the domestic market became even more dominant and the French market became clearly the most important export destination. The market share on the Italian market increased significantly too for almost three times from 3.3 to 9.7%. A slight increase in market growth could be determined in Spain (+0.2%), Denmark (+0.2%) and Japan (+0.03%) so that the market position in these countries improved insignificantly. The growth rate in Egypt (−0.25%), in the Netherlands (−0.15) and in the United Kingdom (−0.1%) was negative. In consequence, The Netherlands lost its position as the most important export destination in favour to France. The export volume of sawn timber to the USA, which is clearly the most important sawn timber import market of the world, was so insignificant as well in 1994 as in 1998 that as well market share as market growth could not be indicated.

The international competitiveness of the German sawmilling industry with regard to the market share in 1998 could be identified to be low on most of the foreign markets. An exception are the domestic, Italian and French markets, where the German sawmilling industry was clearly dominant, holding the highest market share and holding a comparatively high market share respectively. However, there is no foreign market, where the German sawmilling industry is clearly dominating, as for example the Swedish sawmilling industry in Denmark or the Finish sawmilling industry in France. The market share on almost all foreign markets (besides France) was below 10%. The Swedish sawmilling industry in contrary is holding the highest market share on 4 foreign markets (Spain, Denmark, The Netherlands and United Kingdom) and the Finish sawmilling industrie on 3 foreign markets (France, Egypt and Japan).

The annual average growth rate in market share of the German sawmilling industry was favourable on the domestic, Italian and French market, but almost zero or negative on the other 7 foreign markets. Thus it can be concluded on a low international competitiveness. The Finish and Swedish sawmilling industries, however, also showed some weaknesses, as for example the number of foreign markets with a positive growth was lower than that with a negative market growth in case of the Swedish sawmilling industry. The performance of the Finish sawmilling industry was even worse, because a positive market growth could be determined just on 2 foreign markets.

The research findings concerning as market shares as market growth are indicating that the German sawmilling industry does not dispose of a high competitiveness on most of the foreign markets.

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ドイツの製材産業における国際競争

HABERBOSCH Steffen*，小池正雄**

*岐阜大学大学院連合農学研究科博士課程（信州大学）　ドイツ連邦共和国

**信州大学農学部　森林科学科　森林生産利用学講座

要　約

近年，東ヨーロッパにおける製材生産量や製材輸入量が著しく増加した。一方，それとは相対的に，ドイツの製材輸出量は未だに低い位置にある。必然的に，ドイツの製材市場の競争は激化している。この市場を救済するための１つの方法として，輸出努力の強化が挙げられる。しかしながら，国際市場への参加は，リスクが大きい上，国際競争のある一定の水準が要求される。従ってこの研究は，世界の主要10個所の製材輸入市場でのドイツ製材産業における国際競争の現在の水準を評価することを目的としている。国際競争を述べるに当たって，1998年の市場占有率と，1994年から1998年までの市場占有率の成長という２つの要素を用いることにした。更に，ヨーロッパの主要な製材輸出国であるフィンランドとスウェーデンを比較対照に選んだ。調査の結果，1998年には，ほとんどの市場占有率が低い位置にあるということがわかった。それゆえ，ドイツの製材産業の国際競争力は弱いという結果になっている。しかしながら，1994年から1998年の間において，全ての市場においてかなり低い水準から始まったこともあり，標準年間市場占有率の成長は，いくつかの外国の市場においてはかなり有利な成長であった。したがって，ドイツの製材産業は，まだ長い道のりではあるが，国際競争を改善するのに適した方向の上にある。

キーワード：国際競争，製材産業，ドイツ，輸入市場