

ECONOMIC COMMISSION FOR EUROPE

Timber Committee

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FINLAND

MARKET STATEMENT

1 GENERAL ECONOMIC TRENDS

After several consecutive years of economic contraction, the Finnish economy succeeded in withdrawing from the recession in 2015. Nevertheless, the economic growth was only modest and remained at 0.2 percent. The main reason for the starting growth of GDP and economic performance in Finland was the moderate increase in private consumption. Also, the investment activity slightly increased towards the end of the year. However, while the general economic development in Finland is highly dependent on the activity of foreign trade, the export performance in 2015 remained disappointing. Especially, the economic sanctions imposed by Western countries to Russia, and the countersanctions imposed by Russian Federation against the Western goods, were hampering considerably the Finnish exports to Russia along with the weak growth in international trade. Also, while the Finnish exports consist mainly of investment goods and the demand in key export markets has been mainly consumption goods driven, this has prevented the start of exports.

The recent economic outlooks anticipate similar adjustment in Finnish economy also in 2016. The growth of Finnish economy relies heavily on private consumption, which is supported by low inflation, negative interest rates and modest increase in disposable income together with slowly diminishing unemployment. The recent consumer confidence indicators, released by Statistics Finland in August, reveal that the confidence among the households has improved along the current year and is at the level of long-term average. During the first and second quarters of 2016 the Finnish economy was growing 1.2 and 0.4 percent, respectively, compared to the same time periods in 2015. Also, the investment activity is gradually waking up.

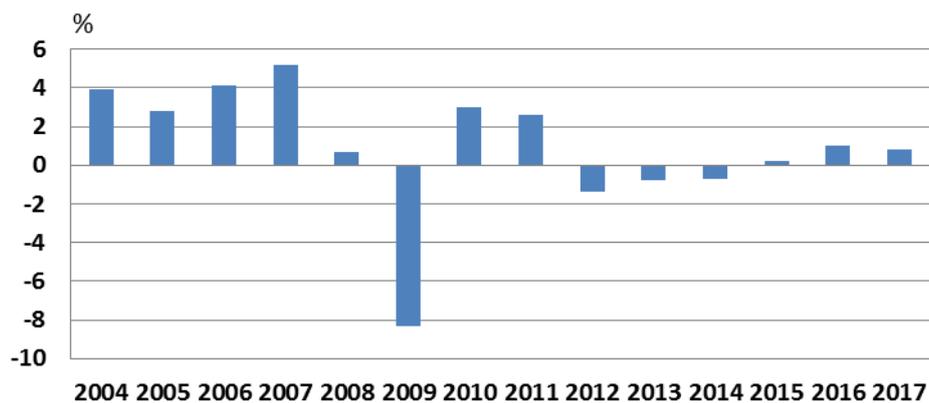
According to recent business tendency survey in August 2016, released by Confederation of Finnish Industries, the general business confidence in Finland has remained fairly stable during this year. Industrial confidence has improved only slightly, but is still weak and well below its long term average. The construction confidence, however, showed a clear upturn and companies estimate that the order books have already strengthened close to the average level.

Despite the industries' slightly improved outlook, the performance of exports remains weak. The value of exports decreased by 5 percent in the first part of 2016 in year-to-year terms. This was mainly due to decreasing unit prices of exports, even though the exports of services increased slightly. Almost half of Finland's exports are targeted to the euro area and the export growth will not start significantly until the investments and the demand for investment goods in euro zone and the activity of world trade will improve. In 2016, the Finnish economy is expected to grow close to one percent.

The economic outlook in Finland for 2017 follows similar pattern than the ongoing year. Although the unemployment in Finland continues to fall slowly and the saving rate is decreasing, the real disposable household income is estimated to grow slightly slower in 2017 than in 2016, which limits private consumption to grow more than one percent. The private investments and, especially, construction are growing for few percent. Towards the end of 2017, the cost competitiveness of Finnish forest industry is estimated to improve gradually. This, together with anticipated slightly weakening of euro and growth in total demand for world trade, will promote exports to grow about 1–3 percent. In 2017, the GDP in Finland is projected to grow by 0.8–1.2 percent.

Despite the moderate positive economic outlook in 2016 and 2017, after several years of economic slowdown, and the recovery of household and business confidences, the economic growth in the next few years in Finland is expected to be rather slow and highly sensitive to even small changes in uncertainty. The growth is more private sectors driven and any significant jump in growth cannot be seen until the exports begin to accelerate. In the short run, however, the success of exports sector is rather restricted due to its one-sided structure, low competitiveness and inflexible labor market. Government indebtedness together with inability for fiscal stimulus restricts government spending for economic recovery.

Annual changes of GDP in Finland, 2004-2017f



Sources: Statistics Finland, Nordea Economic Outlook (2016, 2017)

2 RECENT POLICY MEASURES

In April 2015, the European Commission approved the new Finnish Fixed-Term Act on the Financing of Sustainable Forestry (Kemera Act). The Kemera Act provides financial support for tending of seedling stands, tending of young stands with optional collecting of small-sized wood, remedial fertilisation, management of peatland forests, construction and improvement of forest roads and for environmental agreements and works in private forests. The Kemera Act came into the force on 1st June 2015.

However, the implementation of the Kemera Act has encountered problems as the application process has become bureaucratic and delays have increased. For instance, due to technical changes electronical submission of applications was not possible before April 2016. According to the new Kemera Act, the financing of works needs to be applied before starting the implementation. Also, the expenditures are principally budgeted only for the year applications are received, even though

the actual implementation may be planned to next year. In addition, because of neutrality, financial support for collecting small-sized wood, primarily targeted to energy wood, cannot fully exclude small-sized pulpwood, which has challenged the budgeted funds.

Due to budgeting problems of the Kemera Act, on 3rd May 2016, the Ministry of Agriculture and Forestry decided to suspend the financial support for the tending of seedling stands, tending of young stands with optional collecting of small-sized wood and remedial fertilisation, and reject all applications received after 6th May.

After the supplementary budget of Finnish government on 27th June 2016, the Ministry of Agriculture and Forestry decided to issue extra funding EUR 30 million for Finnish Forest Centre, the authority responsible for the Kemera Act on 7th July 2016. Also, the Ministry supplemented EUR 8.444 million for the payments for projects under implementation. Totally, the Finnish Forest Centre is allowed to accept Kemera Act applications totaling EUR 88 million in 2016.

In order to promote the use of domestic energy and to reduce the use of coal and other fossil fuels, Finnish government made a policy decision on 1st May 2016 to reduce the taxation of the peat fuel from EUR 3.4 to EUR 1.9 per megawatt hour. In addition, the subsidy for electricity, produced from forest chips, was increased from EUR 15.9 to EUR 18 per megawatt hour.

Due to ageing of forest owners and in order to prevent parcelisation of forest holdings, the Finnish government has given a proposal, which should come into force as a part of the Income Tax Act in the beginning of the 2017 and is named as “forest donation deduction”. The proposal consists of donation tax relief which could be received later through timber sales tax when the value of the change of ownership of forest holdings as a donation to next generation exceeds tax value of EUR 30 000. This proposal, including also many other technical details, is under budget preparation.

The entrepreneurship in small and medium sized enterprises, which are not limited companies, is also proposed to be promoted by “entrepreneur deduction”, planned to come into force in the beginning of the 2017. The deduction is motivated by neutrality between limited company tax level (20 percent) compared to individual earned (progressive with income) and capital income (slightly progressive with income, 30 or 34 percent) tax levels. This deduction will reduce the taxable income down to 95 percent in earned or capital income tax. The deduction will be applied to entrepreneurs who are taxed as individuals as well as to farmers, reindeer keepers and forest owners.

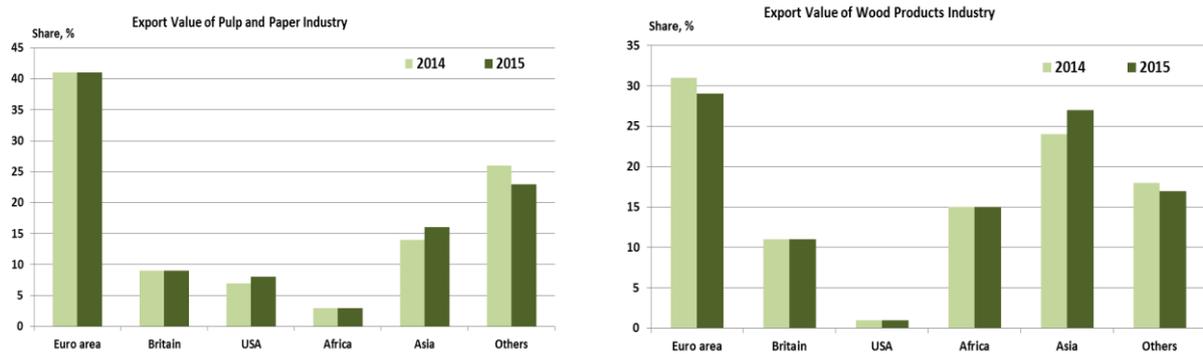
The new Act on Metsähallitus, a state-owned enterprise that operates in the state-owned lands, entered into force on 15th April 2016. This Act states that the forestry operations in Metsähallitus are incorporated into a Metsähallitus owned limited company Metsähallitus Metsätalous Ltd, which will be responsible for silviculture, harvesting and wood sales operations in state-owned forests in accordance with the principles of multiple usages. Behind this incorporation are the requirements to increase transparency in line with the European Union competition requirements.

Slightly equivalent competition neutrality requirements also apply to Otso, a separate business unit of the Finnish Forestry Centre providing commercial forest services like forest planning, forest road and drainage construction and maintenance. As a result, the Otso business unit was sold to private investors in September and it will start as an independent company on 1st October 2016.

3 MARKET DRIVERS

In 2015, the total export value of the Finnish forest sector products was EUR 11 681 million accounting for close to 22 percent of the total export value of goods from Finland and emphasising the importance of forest sector in the Finnish economy. Excluding the roundwood trade, the export value of forest industry products was EUR 11 586 million. The percent shares of the export values of wood products and pulp and paper products with respect to the total export value of the forest industry products were 21.6 and 78.4, respectively.

While most of the products manufactured by the Finnish forest industry are exported, the industry is highly dependent on the development and changes in international trade and demand in the main export markets. Also, the development of exchange rates (USD, CAD, SEK, GBP, JPY, RUB, CNY) with respect to euro is important for competitiveness of Finnish forest industry products not only outside Europe to promote exports but also inside the euro area when competing against the imports from outside of the euro area. In paper industry, about 90 percent of production is exported, while in wood products industry the corresponding share is close to 70 percent. Although the foreign trade target countries slightly differ by forest products over time, the most important export destinations are Europe, Asia, Near East and North Africa.



Sources: Finnish Customs, Luke.

The outlook for Finnish forest sector products follows closely the similar structure as in the previous years. Production and exports of paperboard and pulp are increasing due to the increase in demand for pulp and packaging materials in the export markets. The completed and ongoing investments, in turn, affect positively the future production and export volumes of Finnish forest industries. However, as far as pulp and paperboard export prices are regarded, the worldwide increase in capacity and supply has pushed the market prices down. Yet, the decline in export prices has been most pronounced in the case of hardwood pulp, which is almost totally used in domestic purposes and export quantities are small. Meanwhile, the price drop of softwood pulp, the main pulp assortment exported from Finland, seems to be leveling off gradually.

The demand for paper in the main market area, the euro area, continues to fall, causing a decline in Finnish paper production and exports. However, the capacity cuts both in Finland and abroad, offset the recent development of paper unit prices. Due to the demand for wood products in main export areas, Finnish production and exports of wood products are likely to increase in this year. Also, along with the estimated recovery of constructing activity in the euro area and in Finland, the production and exports of Finnish wood products, mainly sawnwood and plywood, are estimated to slightly go up also in 2017.

In their referendum before midsummer 2016, a slight majority of British citizens voted in favor of the European Union exit, better known as a Brexit. While the political wrangling concerning the terms of the agreements of resignation is likely to continue for years, and even the entire Brexit is still considered uncertain, the effects on the Finnish forest industry can be assessed through both direct and indirect effects. Both of these, in turn, are associated with the development of exchange rate of sterling and changes in the market demand for forest products.

According to recent forecasts, it is anticipated that the Brexit is likely to weaken pound against the other currencies and that the British own economy will suffer the most. The weakening of the pound against the euro makes Finnish forest industry products purchases more expensive for British consumers, which may hamper Finnish exports to Britain. On the other hand, if the pound weakens also against the currencies of the competitors, such as Sweden and Russia, relative changes in exchange rates may be positive or negative for Finnish exports. Indirect effects, in turn, appear with the delay through the changes in demand for forest products. If Brexit slows economic growth also in euro area in addition to Britain, the effects of construction, packaging and advertising growth decelerations are transmitted to the demand for Finnish forest industry products as well.

Britain's percent share of the export value of Finnish forest industry products in 2015

Total	Sawnwood	Plywood	Paper	Pulp	Paperboard
9.8	11.8	15.3	13.9	2.1	6.3

Sources: Finnish Customs, Luke

The overall impact of the Brexit on the Finnish forest products exports is so far impossible to be assessed precisely. Uncertainty regarding political activities, mutual determination of the exchange rates as well as psychological factors remains wide.

The other uncertainties concerning the outlook and projections for the Finnish forest industry, its production and exports in 2017 are related to changes in consumer behaviour, attitudes and moods in the main markets. These, in turn, are closely related to general and economic uncertainty both in Finland and in main export areas. In Europe, it is also uncertain how well the countries manage in integrating the hundreds of thousands of refugees in the society. The European Union's economic sanctions against Russia and Russia's countersanctions, due to the escalation of the crisis in Ukraine, may continue also in oncoming years causing problems for Finnish exports. In Russian Parliament, the draft of law, which prohibits the export of coniferous roundwood from Russia, would, if realised, complicate the wood procurement of Finnish forest industry.

In China, the political objective from the investments and export orientated economic growth towards the more consumption driven economy can be seen as a promoting pulse for the exports of Finnish forest industry. Along with the rise in standard of living and increasing purchasing power, China requires more raw materials such as sawnwood and pulp in order to produce consumption goods for daily use. For example, the export volumes of sawnwood from Finland to China, and especially spruce sawnwood, which is further processed in furniture industry, are estimated to double in 2016 with respect to previous year.

4. DEVELOPMENT IN FOREST PRODUCTS MARKETS

A. Raw wood

The annual data collection of industrial raw wood removal statistics was changed in Finland starting from year 2015. Forest owners' organisations, forest management associations, were included into annual data collection to amend the previous framework consisting of companies purchasing raw wood from forest owners. Data collection for monthly statistics will be changed accordingly from the beginning of 2017.

The results from the new data collection have changed especially the figures for family forests in 2015, as the corresponding industrial removals were up by 8 percent compared to year 2014, when the old data collection method was still employed. In total from all ownership categories, the revised removals, including industrial and other raw wood use, were 52.0 million cubic metres in 2015 (under bark, hereafter u.b.). The market and data amendment effects cannot be fully evaluated separately, but it seems that the most of the effect is from the new data collection framework.

In 2016, the amount of total removals is forecast to remain at the previous year's level at 52.3 million cubic meters u.b. The price stability in raw wood markets continues, although there is slight development in favor of spruce log prices compared to pine logs. This is due to higher demand for spruce sawnwood than pine sawnwood. Pulpwood demand is increasing only marginally in 2016. Raw wood imports will increase slightly. Approximately 4/5 of imports are from Russia, and birch pulpwood dominates the imports.

In 2017, the total removals are forecast to grow by 5 percent totaling 54.7 million cubic meters u.b., especially because of the increasing pulp capacity in Finland. The pulpwood removals are anticipated to grow by 7 percent up to 31.6 million cubic meters u.b. Pine and birch pulpwood stumpage prices are forecast to rise by 1–2 percent. Increasing pulpwood demand will be reflected also in the pine sawnwood production, which is increasing. This is forecast to have an impact of 2 percent on the pine log stumpage prices. Roundwood imports will decrease slightly.

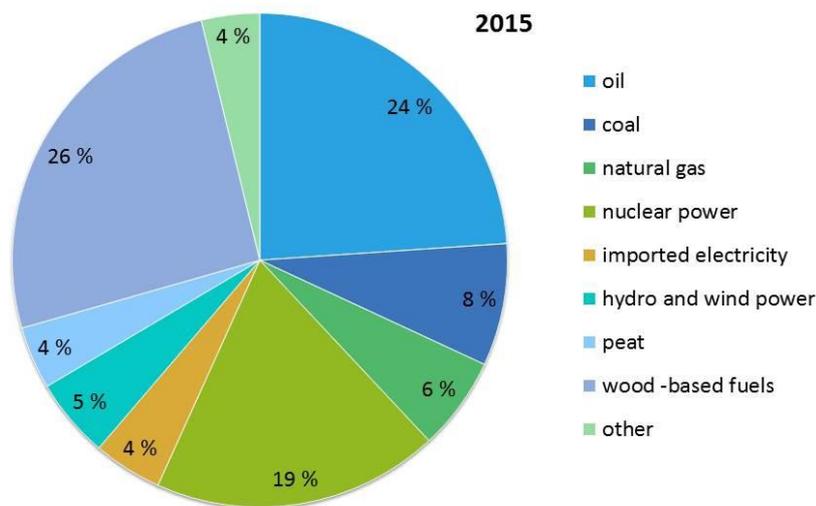
B. Wood energy

In Finland, the role of forests is of integral importance in energy production. Currently, about 80 percent of the bioenergy production is based on wood, wood based energy accounts for 26 percent of all energy consumed in Finland, and 80 percent of the Finnish forest industry's energy consumption (black liquor from the pulp industry, tree bark, sawdust, etc.). Meeting the 2020 goals, (Finland should produce 38 percent of its consumed energy from renewable sources by 2020), depends much on the development of wood processing industry.

The target for 2020 in Finland is to use 13.5 million cubic meters (m³) of forest chips annually. In 2015, the use of forest chips was 8 million m³ of which 7.3 million m³ was used in heat and power plants. The use of forest chips decreased by 3 percent with respect to 2014. Small diameter trees are by far the most important raw material source of forest chips in Finland (53 percent of forest chips in 2015), logging residues accounted for 32 percent of raw material, stumps 11 percent and stem wood 4 percent. In 2016, the use of forest chips is estimated to increase 2–3 percent and remain at the same level also in 2017.

The plant price of forest chips was EUR 21.3 per megawatt hour (€/MWh) in 2015, which is equivalent to the price level of the same period in last year. In 2016, the average plant prices of wood chips are expected to remain at the same level. Domestic production of wood pellets in Finland decreased 7 percent totalling 302 000 tons in 2015. Domestic consumption increased by 1 percent accounting of 240 000 tons. In 2016, domestic consumption is estimated to increase up to 10 percent due to the new plants using pellets. Domestic production of pellets in Finland is estimated to remain at the current level in 2016.

Energy consumption in Finland by source of energy



Source: Statistics Finland

The emission trading has a strong influence on the competitiveness of wood-based fuels and their use in energy plants. Increasing the proportion of wood-based fuels is very difficult at the current price level of the EU emission allowances (around 5 €/t CO₂). A strong increase in the use of wood-based fuels would require a price level of over 25 €/t CO₂ of emission allowances, until the forest biomass can compete with coal. Also, the cheap world market price of fossil fuels (especially coal) has created the situation, where forest biomass is not competitive in some cases. Another challenge is the RES directive, which will increase the costs of energy wood supply chains. Other directives could create also new challenges to bioenergy sector.

In bioenergy markets, changes in taxes, subsidies and regulations have had and will have fast and strong impacts on the use of renewable energy sources. In the European Union, there are several directives concerning the usage of solid and gaseous biomass in energy production under construction. Uncertainty with emission trading together with different directives are postponing investment decisions and making future planning difficult and highly challenging. However, during the recent years, there have been few new investments and plans of new biofuel plants in Finland. Also, several large scale CHP plants using forest biomass have been launched in Finland, and in addition, there have been reconstructions of old plants in order to use more forest biomass.

C. Certified forest products

Currently the amount of certified forests endorsed by the international Programme for the Endorsement of Forest Certification schemes (PEFC) is about 16.5 million hectares in Finland, which accounts for 76 percent of the forests available for wood production. After introducing the Finnish certification standard in 2011, the forest area certified under Forest Stewardship Council (FSC) scheme has increased to 1.6 million hectares or approximately 8 percent of the forest area. Especially, the FSC group certificates of small scale private forest owners have increased in the number.

The use of forest certification labels in forest products has experienced only modest changes over the last year. The number of PEFC Chain of Custody (CoC) certified companies in early 2016 was 35, whereas FSC has granted 116 CoC certificates. The actual numbers of certified products is far higher, but they are distributed similarly in both certification schemes; main group of the certificates are connected to pulp and paper or printing. However, in PEFC primary wood and wood product companies are more widely presented. Both certification bodies presented their own certified building projects in 2016: A sauna and restaurant facility “Löyly” by FSC and a 6 story wooden residential building “Mäihä” by PEFC. Both forest and CoC certificate schemes contribute to the sustainable wood material criteria of the Nordic Ecolabel (The Swan), a widely recognised consumer oriented eco-label in the Nordic countries.

D. Value-added wood products

E. Sawn softwood

Having grown relatively steadily since the drop in 2009, the production of coniferous sawnwood declined by 3 percent year-over-year in 2015. Simultaneously, the exports of coniferous sawnwood from Finland grew by 5 percent. Accordingly, the export orientation of the Finnish sawmilling industry increased once again. Of the 10.6 million m³ of sawnwood produced in 2015 ca. 7.9 million m³ or 74 percent was exported. In contrast, the domestic apparent consumption of sawnwood decreased to ca. 2.7 million m³ accounting for 26 percent of sawnwood production. The record low level of domestic sawnwood consumption was attributable to the slowdown in residential construction in Finland. Especially, the decline in construction of one family houses was reflected in the domestic sawnwood consumption.

Traditionally, Europe has been the main export market area for Finnish sawnwood. However, demand for sawnwood has developed hand in hand with the sluggish construction activity in many European countries and sawnwood producers, not only in Finland, but also in other major sawnwood producing countries, have sought for new export opportunities outside Europe. In 2015, Finnish sawnwood export volumes grew to the UK (9 percent), but declined to Germany (-9 percent) and to France (-20 percent), for example. Overall, the Finnish sawnwood exports to Europe decreased by 1 percent compared to 2014.

In 2015, the largest year-over-year growth rates were recorded in the sawnwood exports to Asia. On the average, the exports of Finnish sawnwood to Asia grew by 16 percent in 2015 compared to previous year. Especially, the sawnwood exports to China grew by 36 percent, and China suddenly became one of the largest export destinations for Finnish coniferous sawnwood. The majority of Finnish sawnwood exports to China consisted of spruce sawnwood demanded by the Chinese furniture industry. Light coloured northern spruce is reported to be in vogue amongst Chinese

consumers. In Asia, relatively fast growth rates were also registered in the Finnish sawnwood exports to Japan (14 percent) and Israel (10 percent). In North Africa, exports to Egypt, the most important export market to Finnish pine sawnwood, grew by 3 percent in 2015.

Deliveries of Finnish sawnwood and plywood in 2015, 1000m³

	Sawnwood		Plywood	
	1000 m ³	%	1000 m ³	%
Production	10600	100	1150	100
Domestic consumption*	2729	26	169	15
Exports:	7881	74	981	85
European Union	3037	29	807	70
Africa, of which	2125	20	10	1
Egypt	1255	12	1	0
Asia, of which	2557	24	53	5
Japan	902	9	5	0
China	641	6	11	1
North-America	9	0	28	2
Others	153	1	83	7

**apparent consumption = production - exports*

Sources: *Finnish Customs, Luke*

The development of Finnish sawnwood export volumes was more positive than anticipated in 2015. The same cannot be said of the export price trends. The average export price fell by 5 percent compared to 2014. Prices slid in most export markets, but in North Africa the fell in price level was most pronounced. North Africa as well as Middle East has been suffering from unstable political situation which has affected exchange rates of the national currencies and importers ability to finance transactions.

Outlook for years 2016 and 2017

During the first half of 2016, the Finnish sawnwood exports have been growing briskly. In January-June 2016, the year-over-year growth rate of coniferous sawnwood exports was 14 percent. The exports of spruce sawnwood increased by 21 percent, whereas the growth in pine sawnwood exports remained in 8 percent. Like in 2015, the largest growth rates were recorded in the Asian markets and in China especially, as spruce sawnwood exports to China nearly doubled compared to the first half of 2015. Demand was also strong in the Japanese markets and both the exports of spruce and pine sawnwood grew double digit figures to Japan. Japan was also one of the few export markets where the unit value of Finnish sawnwood exports rose.

For a change, the Finnish sawnwood exports to Europe were on an upward trend in the first half of 2016. The year-over-year growth rate of coniferous sawnwood exports to Europe was 5 percent. The highest growth rates were recorded in exports to France. Exports to Germany, where residential building activity is growing strongly, grew as well. Exports to the UK were also growing, yet the devaluation of sterling was reflected in the unit value of sawnwood exports. In the case of spruce

sawnwood, the Finnish sawnwood producers were able to partly compensate the exchange rate development by raising the prices, whereas the unit value of pine sawnwood exports to the UK fell sharply. After the Brexit referendum, the sterling has devaluated again and the British sawnwood markets seem less attractive and sawnwood export flows are directed, if possible, elsewhere.

Finnish pine sawnwood exports to Egypt grew over a quarter during the first half of 2016. Simultaneously, Finnish sawnwood exporters won market shares from Swedish and Russian sawnwood merchants in North Africa and Middle East. However, much uncertainty is related to the development of sawnwood demand in the area, which is reflected on the sliding prices. The average unit value of Finnish pine sawnwood exports was 8 percent lower in the first half of 2016 compared to the same period in 2015. Also, the average unit value of spruce sawnwood exports was down by 3 percent, but according to the recent monthly figures, the trend seems to have turned.

The growth of sawnwood exports is expected to stabilise in the second half of 2016 and the year-over-year growth rate of sawnwood exports is forecast to be 8 percent for the whole year 2016. Unfavourable price trend of pine sawnwood exports affects the production and export volumes of pine sawnwood, whereas the outlook for spruce sawnwood is more positive. In domestic markets, the demand for sawnwood is to improve only marginally. Despite the fast growing overall construction in Finland, the starts of one family houses will still remain low in 2016. The annual sawnwood production is thus expected to increase by 6 percent to 11.2 million m³.

In 2017, the positive trend in sawnwood export and production volumes is expected to continue, yet with a slower pace than in 2016. As construction volumes in Europe are finally expected to increase more pronouncedly, the export opportunities will improve. In the Chinese markets for spruce sawnwood, competition is expected to tighten slightly as, for example, Northwest-Russian producers are increasing their supply to China. Overall, the exports of sawnwood are forecast to increase by 1 percent in 2017 compared to 2016. In the domestic markets, the construction of one family houses is to revive slowly and consumption of sawnwood will increase accordingly. The production of sawnwood is forecast to increase by 2 percent to 11.4 million m³ in 2017.

F. Sawn hardwood

Coniferous sawnwood accounts for over 99.5 percent of the sawnwood production in Finland. Sawn hardwood (mainly birch) is a marginal product with the estimated production volume of roughly 40 000 m³ in 2015. The annual production of sawn hardwood has been declining continuously from the level of 100 000 m³ in the early 2000's.

G. Wood-based panels

The production of wood-based panels consists mostly of softwood (spruce) and hardwood (birch) plywood in Finland. Currently, there is only one plant producing particle board in Finland, and the same applies to production of fibre board. Thus, due to privacy reasons, official statistics on particle and fibre board production are no longer available. The last comprehensive production statistics date from 2012, when plywood (including LVL) accounted for 85 percent of the production and over 90 percent of the exports of wood-based panels. The main market area for Finnish plywood exports is Europe with a share of about 90 percent of total exports. Of the production and exports of plywood, softwood plywood accounts for about 70 percent and birch pulpwood the remaining 30 percent.

In 2015, both the production and exports of plywood decreased slightly. However, the average unit value of plywood exports rose by 2 percent. The export price of birch plywood increased by 3 percent, whereas the export price of softwood pulpwood reached an increase of only 1 percent. In European softwood plywood markets, there was pressure on prices due to the imports of Brazilian and Chilean softwood plywood, which was also reflected in the unit value of Finnish softwood plywood exports. Overall in 2015, the demand for softwood plywood improved in Europe as construction slowly recovered in several countries, whereas the demand for birch plywood remained satisfactory in transport industry, especially. The slightly rising export prices improved the profitability of plywood manufacturing to a level that was one of the highest among the sub-sectors of forest industry and well above the profitability level in sawmilling.

Outlook for years 2016 and 2017

In the first half 2016, the production of plywood was 3 percent and exports 5 percent less than year earlier. Metsä Wood, for example, reported that it had adjusted production of both the softwood and birch plywood in the first half of 2016 due to the increased exports of plywood to Europe. However, as the exports of South American softwood plywood have been directed to relatively fast growing North American markets, the pressure on European markets has gradually eased. This was reflected on the export price of Finnish softwood plywood, which was 4 percent higher in the first half of 2016 than in the same period last year. Meanwhile, the export price of birch pulpwood remained unchanged. However, the demand for birch plywood is brisk in transport industry and price increases are planned to be pushed through during the latter part of the year. It is also reported that problems with deliveries and lead times of Russian plywood has directed some buyers' to Finnish products instead. Overall, the market situation in European plywood markets has been improving from the Finnish perspective during the 2016 and it is expected that considering the whole year of 2016, the production of plywood will exceed the production level of 2015 by 1 percent and exports will reach last years' level. The average unit value of plywood exports is estimated to be 2 percent higher in 2016 than in 2015.

In 2017, according to Euroconstruct forecast, the construction in Europe is expected to grow by 2.7 percent, which is a bit faster than 2016. This will improve the demand for softwood plywood and increase also the Finnish softwood plywood exports. The increase in production of birch as well as to some extent softwood plywood in Eastern Europe will create some pressure on European plywood markets. However, the increase in construction output is expected to be fast in many Eastern European countries, such as Poland and Hungary, which will absorb the growing plywood production volumes. In 2017, it is expected that the production and exports of Finnish plywood will increase by 2 percent from the level of 2016, and the average unit value of exports will remain unchanged.

H. Pulp and paper

Finnish pulp and paper industry is highly dependent on international demand. In 2015, more than 90 percent of the Finnish paper and paperboard production was exported. The main export market is the European Union, other destinations being North America, Asia and Africa.

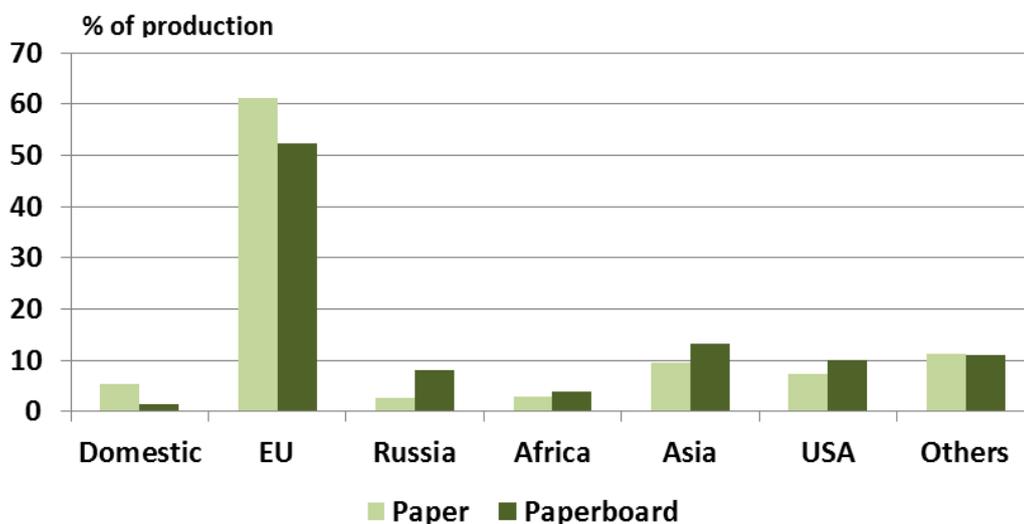
Printing and writing papers have an important role in the forest industry exports even though the share of paper products in the total export value of forest industry products is slightly decreasing year after year. In 2015, the share was 39 percent, and due to the capacity closings completed in

2015, the share dropped to 37 percent in the first half of 2016. Because of the decreasing demand prospects for graphic papers in western export markets, the Finnish industry is putting more effort in increasing the production of paperboard, softwood pulp, bioenergy and biomaterials, which offer versatile future possibilities to grow business.

Production capacity of paperboard is increasing significantly in Finland through conversions of two large paper machines to paperboard. Stora Enso's investment in Varkaus (390 000 t/year, kraftliner) is planned to reach full production in 2017, and Kotkamills's (400 000 t/year, folding boxboard) unit was opened in July 2016. Production of chemical pulp is experiencing kind of a boom in Finland. Two capacity investments (in Varkaus by Stora Enso and in Kymi by UPM, 240 000 t/year all together) were completed in the end of 2015, and the impact can be seen in 2016. A large biorefinery investment in Äänekoski by Metsä Fibre (capacity increase 780 000 t/year) is to be completed during 2017 and reaches full production possibly in 2018. Also, there are other decisions (e.g. UPM Kymi unit) and preliminary planning stages to increase pulp production capacity in Finland.

In 2015, the paper production in Finland declined to 7.25 million tonnes, representing a reduction of 3 percent from the previous year. The exports of paper decreased by 2 percent in comparison to 2014. Finnish paper production is highly export-driven, and these declines were mainly due to decreasing demand in the exports markets, which also led to capacity cuts. Production and exports of pulp and paperboard increased due to growing export demand. In paperboard exports, the growth in 2015 was high, 9 percent with respect to 2014, which was prompted by increasing export demand and growth of production capacity. The export share of chemical pulp is increasing due to capacity growth, even though about 60 percent of pulp is consumed domestically for paper and paperboard production. In 2015, a decrease in paper production in Finland and high demand in China were the main reasons for increasing exports of chemical pulp. The market pulp exported from Finland is mainly softwood pulp. In total pulp production, the share of chemical pulp has been about two thirds.

Exports of Finnish Paper and Paperboard in 2015



Sources: Finnish Forest Industries Federation, Finnish Customs

The export price developments of pulp and paper products in 2015 were rather divergent. The unit price of paper export increased by 2 percent, although paper markets suffer from overcapacity. This indicates that the large capacity closings, realised in recent years in Europe and North America, have improved the market balance at least temporarily, even though the competition between the producers is hard. In pulp markets, Finnish export unit price of bleached softwood increased 8 percent resulting from a high demand in the world market, especially in China.

Outlook for 2016 and 2017

The outlook for Finnish pulp and paperboard for 2016 and 2017 is characterised by significant changes in the orientation of production. Paper production is decreasing after capacity closings, while possibilities to increase paperboard and chemical pulp production are expanded by the new capacity. The impacts of the new capacity investments on production and exports may be seen during the years 2016–2018.

In the paper markets, the demand development follows closely what we have seen during the recent years. In the key export market for Finnish paper, Europe, demand for graphic papers declined about 3 percent in the first half of 2016 compared to the respective period in 2015. Also, there are no signs of a turning point in this trend. In Finland, the production of paper is anticipated to fall by 8 percent in 2016 and by 5 percent in 2017. In 2017, paper production is estimated to remain to about 6.4 million tonnes. Due to decreasing demand and capacity closings completed in 2015, the exports of paper will fall correspondingly by 8 percent in 2016 and by 5 percent in the following year. In 2017, paper exports will settle down to 6 million tonnes. The export unit price of paper is estimated to remain quite stable in 2016–2017. Due to decreasing market demand, there have been globally capacity closures, which support the market balance. For example, in the UNECE region graphic paper capacity fell about 1.7 million tonnes in 2015, and the production cuts are expected to continue in 2016.

Instead of graphic papers, packaging materials, paperboard, packaging paper, household papers as well as tissue papers for personal hygiene create a promising outlook for forest industry. Demand for these products is growing in Europe, especially in Eastern part of Europe, and in Asia. The main markets for the Finnish paperboard are still in Europe, where Germany and Britain are the most important destination countries. Thanks to the capacity increments completed in 2015 and growing export demand, Finland's paperboard production is estimated to increase by 6 percent in 2016 and 5 percent in 2017 totalling 3.4 million tonnes. The export volumes are estimated to increase by 6 percent in 2016 and further 3 percent in 2017 reaching the level of 3.3 million tonnes. However, the average unit price development remains weaker, because paperboard capacity is increasing also in other producer countries. When analysing the aggregate price development for the whole paperboard group, it is necessary to note that the group includes various kind of products with varying qualities and price levels.

The restructuring of paper industry have changed the structure of the Finnish pulp production as well. The share of mechanical pulp has decreased during the recent years giving space for chemical pulp. Due to the increased capacity and export demand for softwood based pulp in 2015, especially in China, Finnish pulp production increased by 4.2 percent and exports by 14 percent during the first half of 2016 compared to the same period last year. In addition to capacity increase, a decrease in the Finnish paper production enabled possibilities for larger softwood pulp exports. For the whole year 2016, Finnish pulp production is estimated to grow by 4 percent and exports by 8 percent. In 2017 the growth is expected to continue. Production is estimated to reach 7.8 million

tonnes and exports 3.1 million tonnes. According to recent outlooks, the growth of global demand for softwood pulp continues in a high level also in 2017.

Market prices of hardwood based pulp have been declining during the first half of 2016 due to the large investments for new capacity especially in Brazil and Indonesia. The price of softwood pulp has also declined partly due to effects of substitution between hardwood and softwood qualities. Also, the declining use of pulp in paper industry affected prices, although demand has remained high in tissues and paperboard industry. The Finnish export prices of pulp have also declined even though the drop in softwood pulp prices is gradually levelling off. For softwood pulp, the main article in the Finnish pulp exports, the global market balance has been better compared to hardwood pulp. In this year, however, the global softwood pulp capacity increment is estimated to be about 1.4 million tonnes and e.g. Sweden has further plans for the next coming years. Russia has several existing plans to increase softwood pulp capacity to meet the increasing demand in China.

I. Innovative wood products

The production of engineered wood products (EWP) is increasing in Finland. Finland's first cross laminated timber (CLT) plant entered production in the late 2014. The plant of CrossLam Kuhmo Ltd has the planned annual production of 35 000–40 000 cubic meters. Stora Enso Plc's new laminated veneer lumber (LVL) plant in Varkaus entered production in the second quarter of 2016. The company invested EUR 43 million in the factory with the planned production capacity of 100 000 cubic meters annually. According to the company's announcement, full production will be reached in the middle of 2018.

Metsä Wood, the wood products industry division of Metsä Group, announced a EUR 100 million investment programme in LVL and veneer products. The programme will be implemented in phases by the end of 2018. Half of the value of the investments is allocated to Finland and the other half to Estonia. In Finland, the investment programme includes the replacement of two older LVL lines in Lohja with one new line and a new birch veneer plant at the Äänekoski biorefinery mill site. The investment will increase the annual production capacity of Kerto® LVL by 20 000 m³. The birch veneer peeled and dried in the new plant in Äänekoski is to be processed further at a new plywood mill site in Estonia, to which the birch plywood production line is planned to be transferred from Metsä Wood's Suolahti plant. In return, Metsä Wood plans to start manufacturing of a new special product based on softwood veneer in Suolahti. The planned production of this new product that is not disclosed in more detail is 60 000 m³ annually. Final investment decision will be made later.

The tendency in promoting bioeconomy and the possibilities of wood as a renewable resource is that factories, previously termed as pulp mills, are increasingly labelled as wood-based biorefineries and bioproduct or bio pulp factories. Terming may be regarded justified as pulp mills have always produced, in addition to wood pulp, several by-products, such as heat and electricity, i.e. bioenergy, and different biochemical, such as tall oil. The possibilities of by-products of pulp production are intensively scrutinised and further processing of by-products and their commercial use play an integral role in the modern wood pulp investment plans.

Year 2015 was the climax in the announcements of investment plans in pulp production in Finland. In the early 2015, Metsä Fibre, pulp industry division of Metsä Group, made the investment decision to construct a bioproduct factory in Äänekoski. The factory, which is essentially a pulp mill with the capacity of 1.3 million tons annually, will enter production in the third quarter of 2017. The plan is that by-products of pulp production are to be processed into high value-added

products. The investment decision by Metsä Fibre was followed by the announcement of Finnpulp to construct a softwood pulp mill in Kuopio (EUR 1400 million) and the announcement to build a bio pulp mill in Kemijärvi (EUR 700 million). Currently, Boreal Bioref Ltd is leading the project in Kemijärvi. Furthermore, in the early 2016, KaiCell Fibers Ltd announced its plans to build an integrated bioproduct mill in Kainuu. Apart from the Äänekoski project by Metsä Fibre, all the other pulp mill projects are in different stages of planning.

As to the biorefineries producing wood based liquid biofuels, during the recent years, there have been several development and investment plans, some of which have already been implemented, some are postponed and some are buried as unprofitable. Within this field, the largest news of 2016 was the announcement of Kaidi Finland, a subsidiary of Chinese Sunshine Kaidi New Energy Group, of plans to build a biorefinery in Kemi. The plant would produce 200 000 tons of second generation wood-based liquid biofuels annually. Kaidi Finland envisages that planning and necessary permits are taken care of in 2016, construction of the plant will start in 2017, and the plant will enter production in 2019.

J. Housing and construction

After the modest growth of 0.1 percent in 2015, the April outlook of The Research Institute of the Finnish Economy (ETLA) forecasted the total construction in Finland to grow by 4.5 percent. The recent outlook by the Confederation of Finnish Construction Industries RT, updated in August 2016, is more optimistic and projects total construction in Finland to increase by 6.5 percent in 2016. The economic turnaround in construction is then realising more sharply than expected in the spring. The growth is mainly based on the construction of new buildings while the growth rate of renovation is gradually slowing down. According to RT prognosis, housing starts are expected to reach 38.5 million cubic meters in current year, which are still less than the long-term average, but nearly one-fifth more than last year. A corresponding level was reached last about five years ago. In addition to housing construction, especially the construction of business premises and public buildings, including schools, are growing. This insight is also supported by the recent indicators and business tendency survey of industries at August 2016 which clearly show increasing confidence especially for construction.

In 2017, the total construction is expected to increase by slightly less than 2 percent. However, this growth requires that Finland's economic growth will accelerate as expected in recent prognoses, and that also the export sector would begin to recover creating positive atmosphere and confidence for future.

Construction in Finland 2015–2017f

	2015	2016e	2017f
Construction, change in volume, %	1.0	6.5	1.8
Renovation construction	2.0	1.5	1.5
Construction investments, change in volume, %	0.1	6.5	1.8
Building construction	-0.4	7.8	1.6
Land and water construction	2.4	1.0	2.5
Starting up of building construction production, mill. m³	32.6	38.5	38.0
Residential buildings	10.9	11.3	11.5
Free-time residential buildings	0.7	0.8	0.9
Commercial and office buildings	5.2	6.6	5.5
Public service buildings	3.6	4.6	4.0
Industrial and warehouse buildings	8.0	9.2	9.7
Agricultural buildings	2.2	3.6	3.8
Other buildings	2.1	2.4	2.5
Number of housing production start-ups	32 400	34 000	34 000
Non-subsidised	23 900	26 500	26 500
State-subsidised housing	8 500	7 500	7 500

Source: Confederation of Finnish Construction Industries RT, 30.8.2016

5. TABLES

A. Economic Indicators

Key economic indicators	2015	2016f	2017f
Gross domestic product growth, %	0.2	1.0	0.8
Consumer price index change, %	-0.2	0.4	1.2
Wage and salary earnings change, %	1.4	1.2	0.8
Unemployment rate, %	9.3	9.0	8.8
Current account surplus/GDP, %	-0.8	-1.0	-1.2
Industrial output change, %	-2.5	-2.0	1.0
Three month EURIBOR, %	0.0	-0.3	-0.35

Source: Nordea Economic Outlook 6.9.2016

B. Production and Trade

1. Forest Industry Production in Finland

Product	Unit 1000	2014	2015	2016e	2017f
Sawn softwood	m ³	10 900	10 600	11 200	11 400
Plywood	m ³	1 160	1 152	1 160	1 183
Particle board	m ³	92	92	92	92
Fibreboard	m ³	47	47	47	47
Mechanical pulp	ton	3 470	3 330	3 300	3 300
Chemical pulp	ton	7 000	7 120	7 400	7 700
Pulp, total	ton	10 470	10 450	10 700	11 000
Paper, total	ton	7 450	7 250	6 700	6 400
Paperboard	ton	2 960	3 070	3 250	3 400
Paper & Paperboard total	ton	10 410	10 320	9 950	9 800

Sources: Finnish Forest Industries Federation (2014–2015)

Natural Resources Institute Finland (wood products, pulp and paper 2016–2017)

2. Exports of Finnish Forest Industry Products

Product	Unit 1000	2014	2015	2016e	2017f
Sawn softwood	m ³	7 464	7 867	8 470	8 520
Plywood	m ³	998	981	979	994
Particle board	m ³	23	21	21	21
Fibreboard	m ³	45	43	43	43
Mechanical pulp	ton	335	365	365	365
Chemical pulp	ton	2 670	2 771	3 000	3 100
Pulp, total	ton	3 005	3 136	3 365	3 465
Paper, total	ton	7 000	6 826	6 300	6 000
Paperboard	ton	2 800	3 024	3 200	3 300
Paper & Paperboard, total	ton	9 800	9 850	9 500	9 300

Sources: Finnish Customs and Finnish Forest Industries Federation (2014, 2015),

Natural Resources Institute Finland (wood products, pulp and paper 2016–2017).

3. Imports of Forest Industry Products

Product	Unit 1000	2014	2015	2016e	2017f
Sawn softwood	m ³	329	419	400	450
Plywood	m ³	89	82	90	90
Particle board	m ³	93	101	103	103
Fibreboard	m ³	173	89	92	92
Pulp, total	ton	403	408	408	408
Paper, total	ton	176	150	140	130
Paperboard	ton	249	227	220	210
Paper & Paperboard, total	ton	425	377	360	340

Sources: Finnish Customs and Finnish Forest Industries Federation (2014, 2015),
Natural Resources Institute Finland (wood products, pulp and paper 2016–2017).