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FUTURE POSSIBILITIES OF SAW LOGS ON MARKET WITH WOOD IN SELECTED COUNTRIES

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Abstract

Saw-logs represent the basic commodity of the processing industry, especially for the construction segment. Demand and consumption of this raw material on a global scale every year is growing. Paper analyses the market development for coniferous and non-coniferous sawlogs on central Europe markets. Analyzed Period was from 2011 – 2017 (respectively 2018). Evaluated were supplies volume and prices for spruce, fir and beech sawlogs in this period, for countries: Slovakia, Czech Republic and Austria. In the last ten years, prices of wood assortments increased generally. The fact of the potential risks and opportunities shows, that the timber market could be still dynamically increasing sector, in the future operating on the principle of sustainability. In the future can be expected pressure on prices of coniferous sawlogs.

Key words: *saw-logs, wood prices, market development, wood supplies*

1. INTRODUCTION

The current market for saw logs is mainly influenced by global climate change and by accidental events that directly trigger it. Practically throughout Europe, the intensity and extent of accidental fellings increases. The primary cause is wind storm and subsequent secondary damage to the weakened forest stands by insect attack. Other causes of rising volumes of accidental fellins are often the inappropriate tree species composition of forest stands and their weakness due to drought (especially for spruce stands).

Especially thanks to the high share of accidental fellings, it is possible to maintain the increasing consumption of saw logs and the relative mitigate of the processors' demand for it.

It is already clear that the continuation of this development will not be possible in the next decades. Processors should prepare for a gradual decrease in the market share of coniferous saw logs on the market (as the volume of intention felling will decrease) and adapt their technologies to the processing of other tree species (a gradual change in the tree species composition in forest stands is also expected).

The situation is quite different in the segment of the non-coniferous saw logs. Especially for beech wood, which is dominant in the market share. Demand for beechwood logs is low, especially due to the refusal of the construction and furniture industry. Today, however, there are good modifications of beechwood for its use in wooden constructions, so it is only a matter of time when the demand for this assortment will grow.

The paper evaluate current state and perspectives for the market development in this field. Especially for the coniferous and non-coniferous saw logs.

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2. MATERIAL AND METHODS

Development of the supply volumes of sawlogs on the basis of data obtained from the Green Report issued by the Ministry of Agriculture of Slovakia and also in the Czech Republic were evaluated [1,2]. Data for Germany were acquired from the "Holzmarktbericht" [3] and for Austria "Holzeinschlagsmeldung"[4]. Assessment of price developments was focused on sawlogs assortments from spruce, fir and beech trees in selected provinces in Austria, Czech Republic and Slovakia. The analysed period represents the period from 2009 to April 2018. In the case of the Czech Republic the prices were calculated using the exchange rate of the National Bank of the Czech Republic [5]. The prices of assortments for Austria are in the trade parity on forest roads or forest warehouse. Prices in Slovakia and Czech Republic are placed on parity FCO (ex-warehouse vendor, respectively FCA (loaded truck purchaser). In order to provide absolutely correct comparison, it is necessary to add the transport costs to the Austrian prices (eventually parity DAF or CIF). Information on price developments have been drawn from the magazine Holzkurier [6], the Czech Statistical Office [7] and the forestry market information system [8].

3. SUPPLY DEVELOPMENT FOR SAWLOGS

Global production of roundwood confirms the continuous increase in production of this assortment. With the exception of 2009 (Global Economic Crisis), increase global production of sawlogs by almost 156 million m^3 between 1993 and 2016 (+17,2%).
The largest average share (1993-2016) of production of total produced roundwood volume have USA (209 million m^3), Canada (140 million m^3) and Russian Federation (94 million m^3).
If we consider only Europe, the development is similar. An increase in the production of sawlogs from 1993 to 2016 was more than 125 million cubic meters (+55 %). The largest average share (1993-2016) of production of total produced roundwood volume in Europe have Russian Federation (94 mil. m^3), Sweden (34 mil. m^3) and Germany (28 mil. m^3).
In Slovakia, the production of sawlogs has increased almost threefold since 1993 to 5 mil. m^3.

Table 1 *Supplies volumes of sawlogs in selected countries of Central Europe for the period 2011 - 2016*

	Coniferous logs III. quality class					
Country/Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Slovakia	3 315 963	2 738 391	2 388 043	3 079 215	2 749 994	2 972 841
Austria	10 064 816	9 358 593	9 052 196	8 585 106	9 193 948	9 236 916
Germany	25 497 000	23 457 000	23 784 000	24 917 000	27 024 000	24 712 000
Czech republic	8 014 152	7 911 000	7 925 000	7 955 000	8 468 081	9 869 000
Non-Coniferous logs III. quality class						
	2011	**2012**	**2013**	**2014**	**2015**	**2016**
Slovakia	1 352 606	1 392 987	1 501 459	1 498 766	1 427 986	1 410 727
Austria	320 876	295 086	267 120	270 120	296 831	320 625
Germany	3 520 000	3 175 000	3 058 000	3 197 000	3 356 000	3 471 000
Czech republic	823 845	710 000	720 000	593 000	495 728	472 000

Table 1 shows the development of sawlogs supplies in selected countries of central Europe. In coniferous sawlogs can we observed the general decrease in period 2011-2013. In the 2014 was in all countries (except Austria) the slightly increase for the sawlogs volume supplies. In 2015 and 2016, the level of production of sawlogs in individual countries did not change fundamentally. This development reflects the gradual impact of incidental fellings over the past 10 years. In the future, another slight decrease may be expected, especially in the case of coniferous pine logs.

In the supplies of non-coniferous raw wood assortments have the highest share assortments of pulpwood and industrial wood. This is partly related to the settings and preferences of the wood-processing industry. For more valuable purposes of the processing are mainly in tree species oak, maple and ash. The supplies of non-coniferous saw-logs are also affected the tree species composition in the Forest. In the forests of Austria, Germany and Czech Republic are dominant the coniferous tree species. Only in Slovakia is dominant the beech. Generally was the trend for this assortment in last 2 years in Slovakia and Czech Republic slightly decreasing (Table 1). In Germany and Austria was the trend slightly increasing. Also it influences the progressive development of wooden buildings and various support programs in some countries [9].

In the near future, the market for this assortment will continued to be affected by extensive incidental fellings. In the Czech Republic is a particularly unfavorable state of damages in forest stands caused by insects. In 2017, 5.5 million m^3 of wood, damaged by insects, were processed. Another 4 mil. m^3 of predominantly spruce wood was damaged by wind. This year, further grading of this state is foreseen, which will significantly affect the timber market at the regional level. In the short term, we can expect a decline in the prices of coniferous saw-logs. In the long run, however, the volume of this assortment on the market will gradually decrease and the impact will be visible in the gradual increase of prices.

In the case of beech sawlogs, stabilized volumes on the market and gradual recovery in the range of these assortments can be expected, especially as a result of its application in the wooden constructions sector.

The availability of raw materials for sawmills will in the future also affect the development of the energy sector and an increasing demand for timber as an energy renewable resource.

4. DEVELOPMENT OF THE SAWLOGS PRICES

The development of sawlogs prices is affected with a many factors. The most crucial influence had the intensity and extent of incidental felling together with a local and global economic and political situation. In this chapter we focused mainly on the analysis of the sawlogs prices development, mostly traded wood species, spruce, fir and beech in selected provinces in Austria, Slovakia and the Czech Republic for the period 2011 - April 2018. The influence of certain factors on the wood prices in most countries of Central Europe is very similar. We will focus on analyzing the causes of prices, developments in a given period.

4.1 Price Development for the Spruce and Fir sawlogs

Figure 1 represent the price development for the sawlogs, from wood species spruce and fir in Slovakia, Czech Republic and selected regions of Austria. After global economic crisis was the situation on timber market relatively stabilized in years 2011 and 2012. Since that time, practically still continuously increase until the end of the year 2014. In Austria and the Czech Republic a several enterprises got into economic problems in 2014 and decreased its production capacities. For the prices of sawlogs this reality didn´t have any significant

impact. Mainly in Austria was the situation affected by economical restrictions again Russia. The big sawn wood producers in Austria have the frozen capital investments in Russia. That partially influence the timber market in Austria. The market development is continuously affected by big range of incidental fellings in Europe. In near future can we expected the next prices decrease (according to situation in Czech Republic). For the last 5 years was the biggest price level at the end of 2013 in Austria. In Slovakia was the biggest price level at the beginning of 2018.

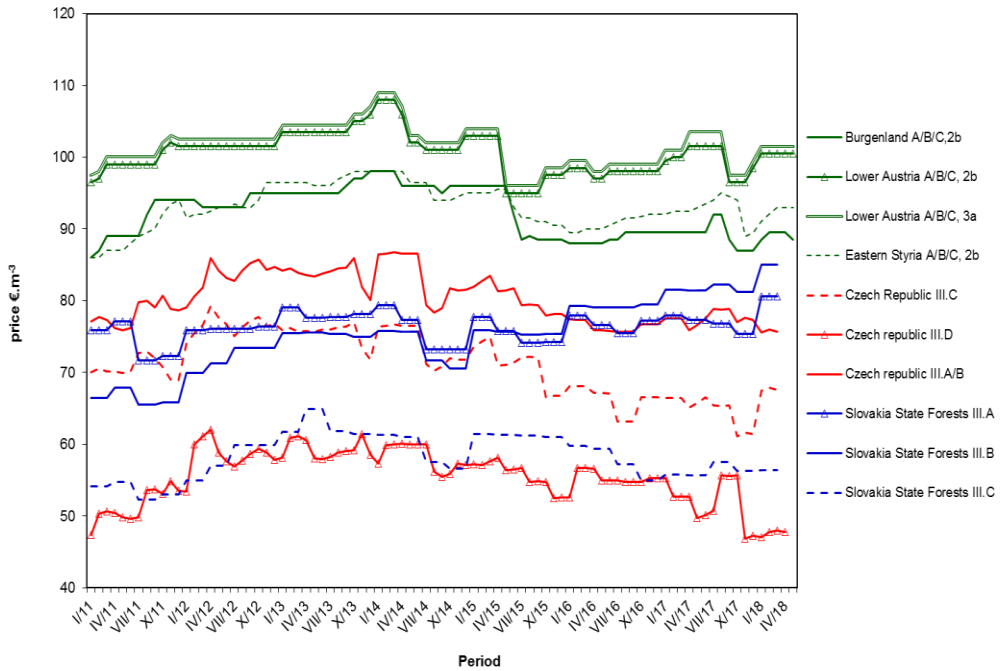

Figure 1 *Development of spruce and fir sawlogs prices in Slovakia, Czech Republic and Austria*

4.2 Price Development for the Beech sawlogs

Figure 2 represents the price development for the sawlogs from wood species beech in Slovakia, Czech Republic and selected regions of Austria. The highest Slovak price levels in the monitored period reached the beech sawlogs just at the beginning of 2018. The minimum was reached in early 2011. At the beginning of 2012, prices have slightly increased and remained at this level basically stable for two years.

In Austria and Czech Republic was the price development similar (despite of other tree species composition in the forests). In the Czech Republic was the price level assortments classes III.C and III.A/B relatively identically in the late 2017.

In Austria the trade with higher quality of broadleaved assortments is seasonal. Since 2013 it has fundamentally changed the methodology of prices information (in Salzburg started to roll out prices for different kind of beech sawlogs assortments), so it was not possible to compare continuously during the entire period. During 2014 it was recorded for a mixed assortment of A/B in different classes of thickness a significant increase of more than 10 € per m^3. Certainly it contributed to various state programs aimed at promoting the beech and products thereof. At the beginning of 2017 was recorded partially decrease in mixed class

A/B, 3b+. In the class III.A/B 4+ was the decrease recorded in the half of year 2017. It indicates the continued stagnation on the market with beech saw-logs.

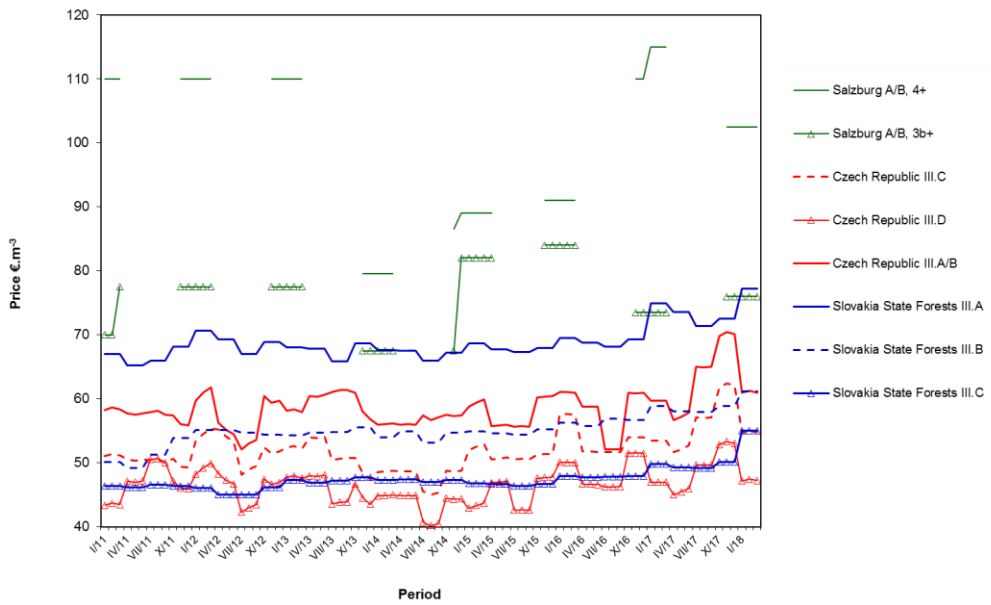

Figure 2 *Development of beech sawlogs prices in Slovakia, Czech Republic and Austria*

5. CONCLUSION

Over the past 5 years, we can mark the situation on the market for sawlogs as stabilized. This is true for both coniferous and non-coniferous logs. The situation was predominantly influenced by the incidental fellings operations which formed the basis for sufficient supply and further growth of the processing industry in this segment. In the near future, there will still be enough wood in the Central European region, mainly due to incidental felling. However, over the several decades, the same continuous increase can´t be expected as after the global economic crisis in 2009. The volume of intentional felling will decrease, the age structure of the forests will change, and the assortment structure will be changed. Another sector, especially in the field of energy and synthetic materials, will play its role. Today's producers should consider alternatives to production programs for spruce and fir raw wood assortments. It can´t be expected that in the long term, enough wood will be available for all processing industries.

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