

WOOD INDUSTRY EMPLOYMENT TRENDS IN CROATIA SINCE 2010

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- This paper also discuss a possibility to predict the number of employees in Croatian wood industry sectors, on the basis of established values in the period 2010 - 2017.
- The prediction is limited to the year 2022, because of turbulences in this market, and the length of analyzed time series data.
- Specially for the period 2015 – 2017 analysis include the distribution of employees by sex, and shares of woman and man employed in the total number of employees in woodworking sectors.

➤ *Table 1. Legend for analyzed variables*

Variable	Number of employees according to		
	NKD 2007.	NKD 2007. / JOPPD forms	
		women	men
CT	Total Croatia	CTw	CTm
MT	Manufacturing (sector C)	MTw	MTm
WP	Wood Processing (sector C16)	WPw	WPm
FM	Furniture Manufacturing (sector C31)	FMw	FMm

➤ *Table 2. Number of employees according to NKD 2017. (source DSZ)*

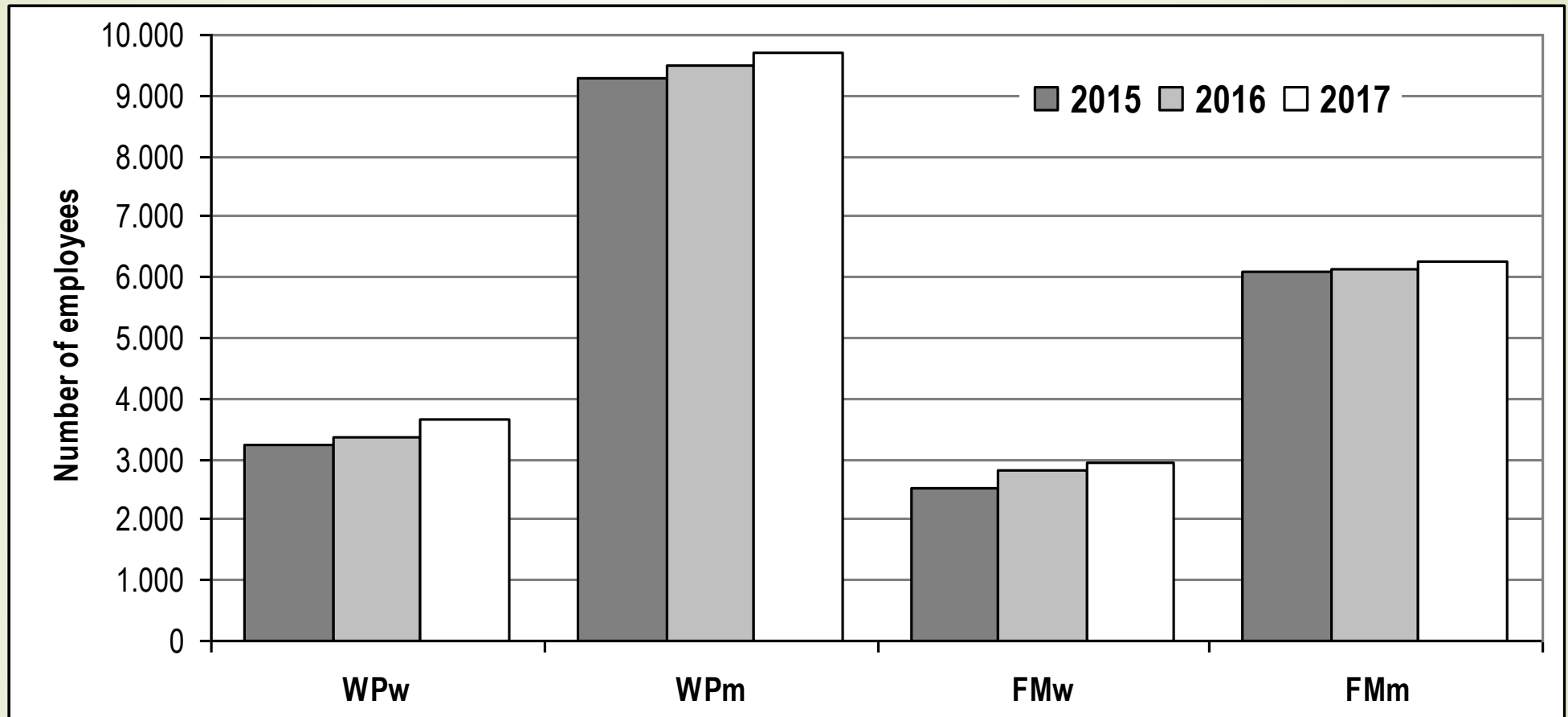
Year	CT	MT	WP	FM
2010	1.168.179	219.976	11.050	9.676
2011	1.159.657	214.302	10.839	9.357
2012	1.153.497	207.298	11.072	8.887
2013	1.132.246	201.950	11.072	8.447
2014	1.120.507	198.069	11.521	8.443
2015	1.175.656	210.072	12.501	8.602
2016	1.177.004	208.375	12.858	8.944
2017	1.193.687	212.666	13.365	9.203

- Table 3. Number of employees according to NKD 2017., and JOPPD forms (source DSZ)

Year	CTw	MTw	WPw	FMw
2015	562.206	75.707	3.224	2.500
2016	566.222	74.807	3.367	2.815
2017	573.464	76.089	3.663	2.925

► Table 4. Shares of analyzed variables according to CT and MT

Year	Shares according to CT (%)			Shares according to MT (%)	
	MT/CT	WP/CT	FM/CT	WP/MT	FM/MT
2010	18,83	0,95	0,83	5,02	4,40
2011	18,48	0,93	0,81	5,06	4,37
2012	17,97	0,96	0,77	5,34	4,29
2013	17,84	0,98	0,75	5,48	4,18
2014	17,68	1,03	0,75	5,82	4,26
2015	17,87	1,06	0,73	5,95	4,09
2016	17,70	1,09	0,76	6,17	4,29
2017	17,82	1,12	0,77	6,28	4,33
Mean	18,02	1,02	0,77	5,64	4,28
Std.Dev.	0,41	0,07	0,03	0,49	0,10
Av.Rate	-0,79	2,44	-1,02	3,25	-0,23



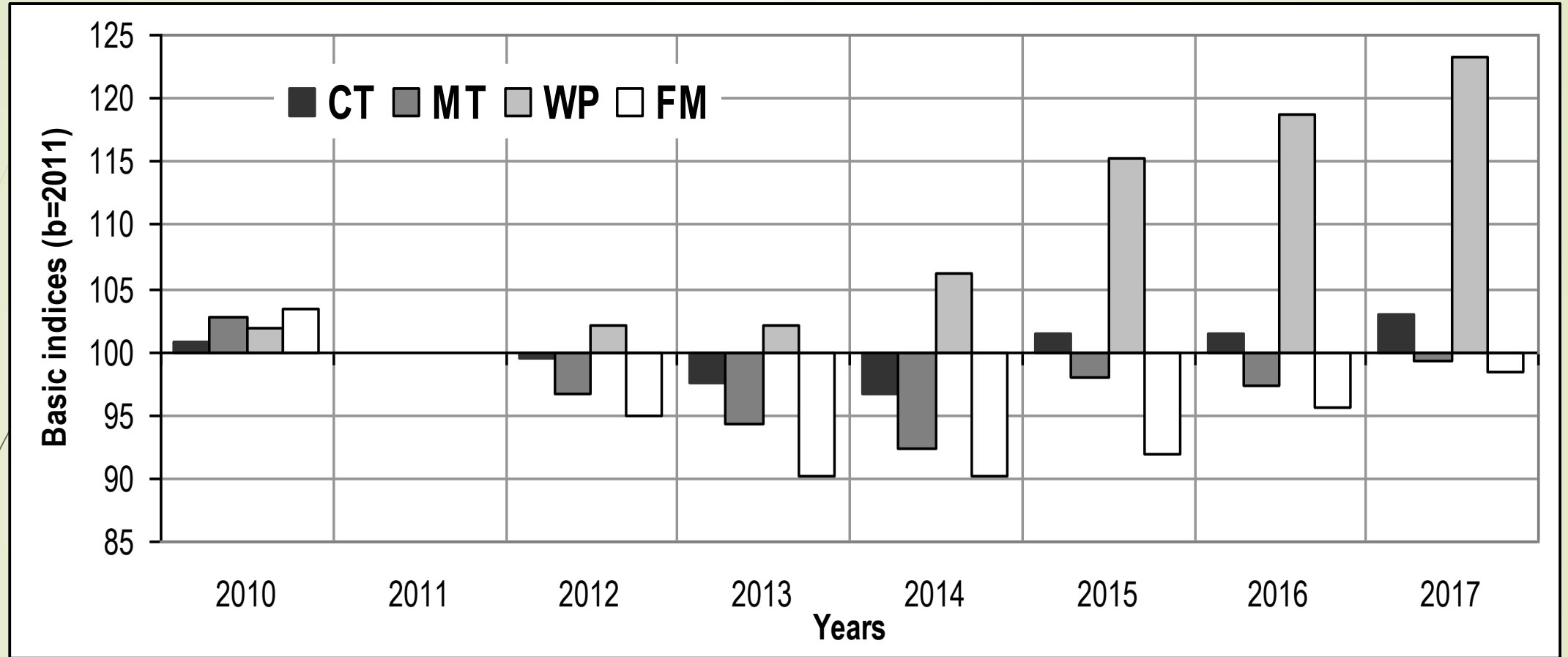
➔ *Figure 1. Comparison by sex in WP and FM*

Table 5. Descriptive statistics for analyzed variables

Variable	Valid N	Mean	Std.Dev.	Conf.L. -95%	Conf.L. +95%	Minimum	Median	Maximum	Av.Rate
CT	8	1.160.054	24.226	1.139.801	1.180.308	1.120.507	1.163.918	1.193.687	0,309
MT	8	209.089	6.924	203.300	214.877	198.069	209.224	219.976	-0,482
WP	8	11.785	977	10.968	12.602	10.839	11.297	13.365	2,755
FM	8	8.945	446	8.572	9.318	8.443	8.916	9.676	-0,713
CTw	3	567.297	5.706	553.124	581.471	562.206	566.222	573.464	0,996
MTw	3	75.534	658	73.899	77.169	74.807	75.707	76.089	0,252
WPw	3	3.418	224	2.862	3.974	3.224	3.367	3.663	6,591
FMw	3	2.747	221	2.199	3.295	2.500	2.815	2.925	8,167
CTm	3	614.818	4.867	602.728	626.909	610.782	613.450	620.223	0,551
MTm	3	134.837	1.559	130.964	138.709	133.568	134.365	136.577	0,820
WPm	3	9.490	213	8.962	10.018	9.277	9.491	9.702	2,265
FMm	3	6.170	95	5.934	6.405	6.102	6.129	6.278	1,432

Table 6. Basic and chain indices for all variables

Year	Basic indices (b=2010)				Chain indices			
	CT	MT	WP	FM	CT	MT	WP	FM
2010	100,7	102,6	101,9	103,4	-	-	-	-
2011	100,0	100,0	100,0	100,0	99,3	97,4	98,1	96,7
2012	99,5	96,7	102,1	95,0	99,5	96,7	102,1	95,0
2013	97,6	94,2	102,1	90,3	98,2	97,4	100,0	95,0
2014	96,6	92,4	106,3	90,2	99,0	98,1	104,1	100,0
2015	101,4	98,0	115,3	91,9	104,9	106,1	108,5	101,9
2016	101,5	97,2	118,6	95,6	100,1	99,2	102,9	104,0
2017	102,9	99,2	123,3	98,4	101,4	102,1	103,9	102,9



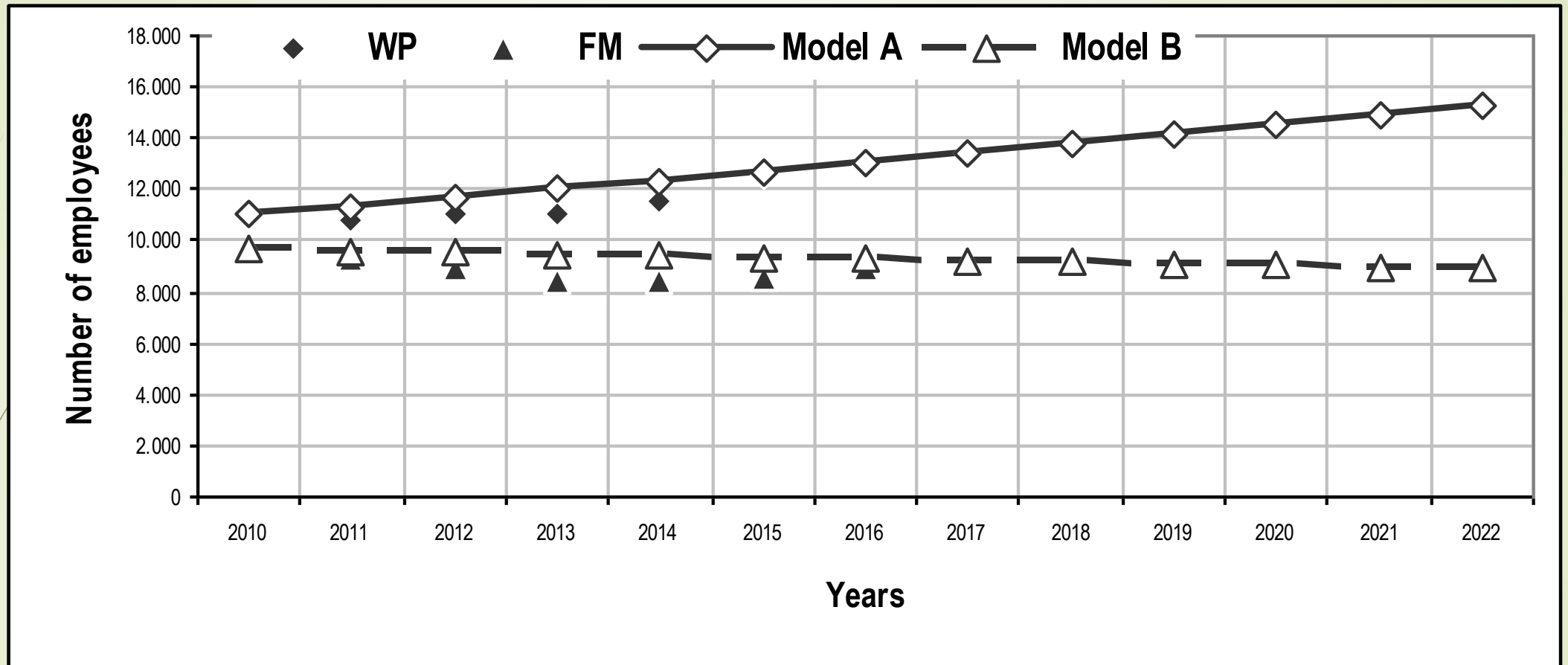
➔ *Figure 2. Comparison of the basic indices (b=2011) for all analyzed variables*

- Based on the average rates of change for WP and FM in the observed period, models A and B for prediction of future values of the number of employees were developed:

$$A_{WP}(t) = 1,0276^t - 11050$$

$$B_{FM}(t) = 0,9929^t - 9676$$

- t – mark for the time, where $t=0$ compared to year 2010, $t=1$ compared to year 2011 etc.,



➤ *Figure 3. Comparison of existing and predicted values in WP and FM*

- ▶ According to model A, it is estimated that the number of employees in WP will exceed 15 thousand by year 2022, while according to model B, the number of employees in FM falls below 9 thousand.
- ▶ Assuming that the macroeconomic policies will not be changed the results of these research could become a great help for a future actions in woodworkong sector.

And for the end

