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RELATION BETWEEN CONSUMPTION AND IMPORT OF WOODEN WINDOWS IN FRANCE

Abstract: The paper presents the results from the research about the relation between consumption and import of wooden windows in France. Apart from this, regional direction of import as well as the analysis of trends in consumption and import of wooden windows in France have also been presented. Researches were performed during the period from 1995 to 2005.

Key words: consumption, wooden windows, wood, import

ОДНОС ПОТРОШЊЕ И УВОЗА ПРОЗОРА ОД ДРВЕТА У ФРАНЦУСКОЈ

Извод: Рад представља приказ резултата истраживања односа потрошње и увоза прозора од дрвета у Француској. Поред тога, у раду је представљена регионална усмереност увоза, као и анализа трендова потрошње и увоза прозора од дрвета Француске. Истраживања су вршена у периоду од 1995-2005. године.

Кључне речи: потрошња, прозори од дрвета, дрво, увоз

1. INTRODUCTION

With 410 residential units in total, France was on the second position in Europe in 2005, just after Germany. Beside the increase of 13%, the number of constructed residential units in 2005 was 9000 units smaller compared to the peak level in 1980 (419,000 residential units). The trend of the increasing number of constructed residential units in the last four years will continue in 2007 and 2008 as well, so that the expectations are that

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already in 2007 the peak from 1980 will be exceeded. Having in mind that the usage of wood products, especially windows and doors, is increasing on this market, it can be expected that the consumption of wooden windows and doors will also increase. This is the case because many insurance companies in France allow discounts for insuring residential structures with wooden instead of PVC windows.

Observing by structure, the participation of individual residential units is dominant; in 2005 they participated with 56% in the total number of constructed residential units.

2. SUBJECT AND OBJECTIVE OF WORK

The main subject of the research in this paper is the consumption and import of wooden windows in France. Researches were performed for the purpose of analyzing the participation of import in the consumption and its regional direction in order to determine the possibility of exporting wooden windows from Serbia and Slovenia on the basis of the analysis results. Based on the established trend models, forecasts of export participation in the consumption until 2015 are given.

Table 1. Consumption and import value of wooden windows in France

Табела 1. Потрошња и увоз прозора од дрвета у Француској

Year	Consumption (P_t)	Import (I)	Ratio I/P_t
	mill. €		%
1995	516.722	38.548	7.46
1996	478.254	31.219	6.53
1997	402.342	30.568	7.60
1998	410.164	24.884	6.07
1999	453.286	23.644	5.22
2000	446.128	40.438	9.06
2001	447.838	34.094	7.61
2002	489.118	33.726	6.90
2003	467.335	25.397	5.43
2004	438.555	36.938	8.42
2005	485.154	41.178	8.49
X_s	457.718	32.785	7.16
I_s	0.12%	4.70%	1.18%

Legend/Легенда: P_t - consumption/потрошња, I - import/увоз, X_s - average/средња вредност, I_s - average growth index per year/просечна годишња стопа раста

3. METHOD OF WORK AND DATA PROCESSING

Modeling method was used as the basic scientific method in the paper, while trend analysis and regression and correlation analysis were used as research methods. For the verification of the obtained regression models, determination coefficient (R^2), correlation coefficient (R), t-statistics parameter assessment (for assessing parameter significance) and F-statistics (for assessing correlation coefficient significance) were used. Also, classical conclusion methods (abstraction and concretization, analysis and synthesis, induction and deduction) and other methods and techniques necessary for obtaining the needed elements for concluding (averages, increase rates, etc.) were used.

The data were collected from official publications (newsletters), the Wood Committee databases (however, the data were rectified for certain years) and calculations performed by the authors (Table 1), and they refer to the period from 1995 to 2005. Data processing was done in adequate statistical programs and programs for table cross calculations and the level of the margin of error were chosen on the level of 0.05 (tolerant error is equal or less than 5%).

4. CONSUMPTION AND IMPORT OF WOODEN WINDOWS OF FRANCE

4.1. Data processing results and their analysis

4.1.1. Trend analysis

Based on the point distribution diagram of empiric data for consumption value per years (graphic layout of the trend of consumption value), two periods with completely opposite directions can be noticed. Namely, during the first 3 years (1995, 1996 and 1997) strong downward trend is clearly identified (sudden drop from maximum in 1995 to the minimum in 1997). In the second part of the period (1997-2005) moderate rising trend of consumption value can be observed.

Guided with the information which is of the best quality from the aspect of the possibility of our participation in the consumption value of wooden windows in France (namely, the most recent information), modeling of consumption value trend and drawing conclusions on that is based of the period from 1997 to 2005. On the grounds of that, linear trend of consumption value is extracted as the most representative of the movements of this element during the observed period (all parameters and correlation coefficient are statistically significant), and which looks as follows:

$$C=408.254+8.125 \cdot t,$$
$$(26.64) \quad (2.98)$$
$$R^2=0.56 \quad R=0.75 \quad F_{(9,8)}=8.904.$$

Based on the obtained model of consumption value trend in the period 1997-2005 (Figure 1), it can be concluded with high degree of probability that average annual increase of consumption value was about 8.13 mill. €, and average annual increase rate during this period was about 0.8%.

If such increase rate continues in the future period as well, it can be expected that the maximum consumption level from 1995 is reached in 2007, and even overcome in later years. This indicates the possibility that the value of imported wooden windows can be increased with such growing consumption; therefore, it can be viewed as a chance for our exporters to place their products on that market.

If the whole shown period is observed (1995-2005), the amount of average annual consumption was at the level of 457.72 mill. €, and average annual increase rate was about
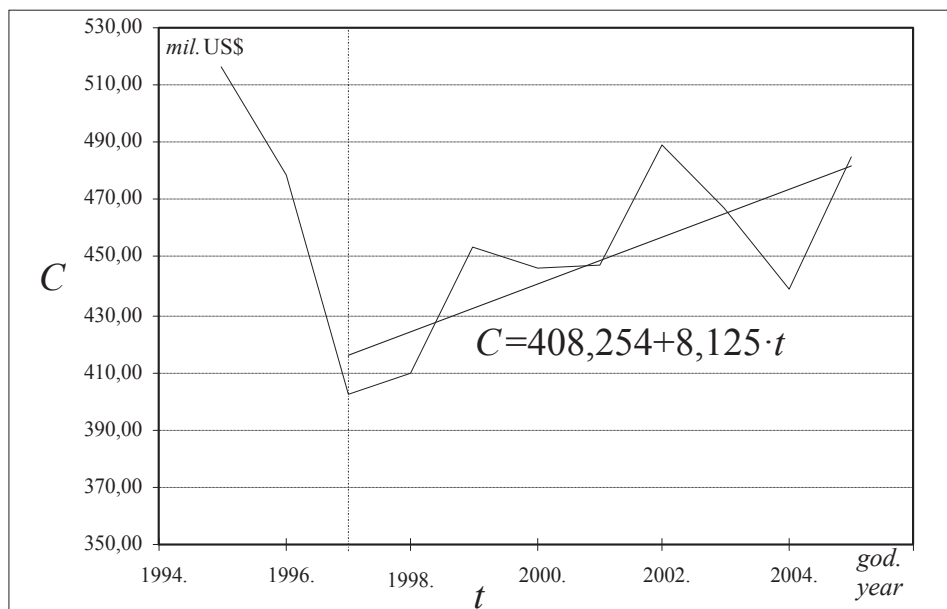
Figure 1. Trend of consumption value of wooden windows in France for the period 1997-2005
Графикон 1. Тренд потрошње прозора од дрвета у Француској у периоду од 1997-2005. год.

0.12% (table 1). Regardless of the relatively small average annual increase rate of the consumption value, it has to be stated that this is a significant absolute value (average annual value is somewhere around 0.5 bill. €), so that even a smaller increase rate has significant value when calculated into absolute amount.

Import value trend, in the overall, shows noticeable variations and changes of direction during the observed period. However, in order for the trend models to be mutually comparable, trend model referring to the period 1997-2005 was formed in this case as well. On the basis of that, linear trend of import value was extracted as the most representative of the movements of this element during the observed period (free parameter and correlation coefficient are statistically significant, and parameter with time is insignificant), and which looks as follows (Figure 2):

$$I=26.04+1.26 \cdot t,$$
$$(5.91) \ (1.60)$$
$$R^2=0.27 \quad R= 0.52 \quad F_{(9,8)}=2.57.$$

Based on the obtained model, it can be concluded that absolute average annual increase of import value is about 1.6 mill. €, but this statement bears slightly higher error (around 15%) from the adopted one (5%). Average annual increase rate of import value is 1.7% during the period 1997-2005. All this points at realistic possibilities that import value increases in the future period as well, which is in favour of the export strategy of producers
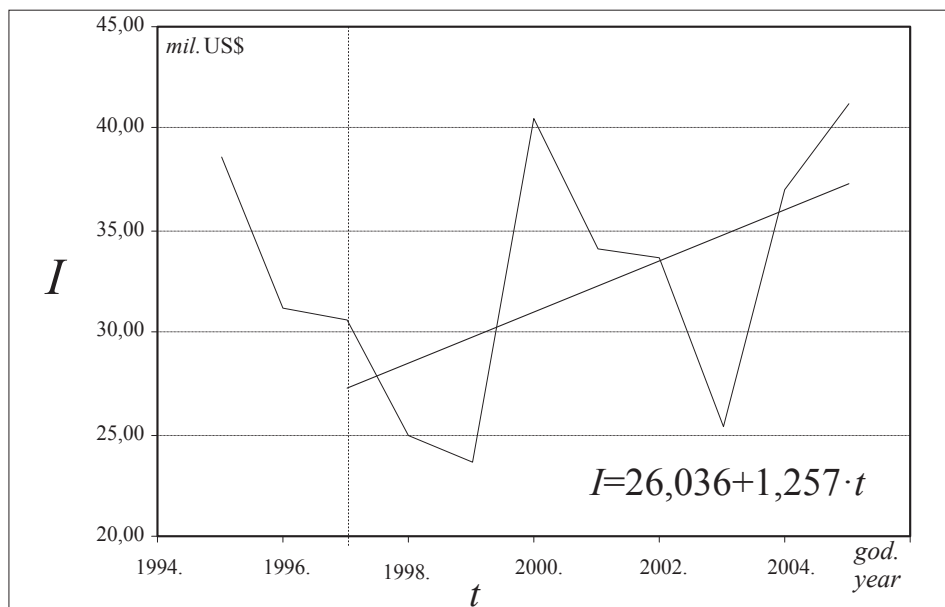
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Figure 2. Trend of import value of wooden windows in France for the period 1997-2005
Графикон 2. Тренд увоза прозора од дрвета у Француску у периоду од 1997-2005. год.

from Serbia and Slovenia, because there is a realistic opportunity to participate with our export in such increased amount.

On the level of the entire observed period (1995-2005), it can be noticed that average annual import value of France is 32.785 mill. €, and average annual increase rate is about 4.70% (Table 1). Average annual increase rate of import value (4.70%) is significantly higher than with consumption value (0.12%), on the basis of which it can be concluded that bigger and bigger consumption portions will be compensated with import, which additionally confirms the conclusions in view of the future participation of Serbia and Slovenia on the wooden windows market in France.

If we take a look at the participation of import value in the consumption value of wooden windows in France, it can be noticed that average annual participation is about 7.16%, and average annual increase rate of this participation is 1.18%. This can be interpreted as the expectation that the participation of import value in the total consumption level will be increasing by 1.18% annually from the existing level. In other words, in 10 years time (2015) import value will most probably overcome the level of 10% participation in the total consumption value from the level of 8.5% in 2005.

The most significant countries from which wooden windows are imported into France are Denmark, Poland and Belgium (Figure 3). In 2005, import of wooden windows from these countries comprised 80% of the value of their total import.
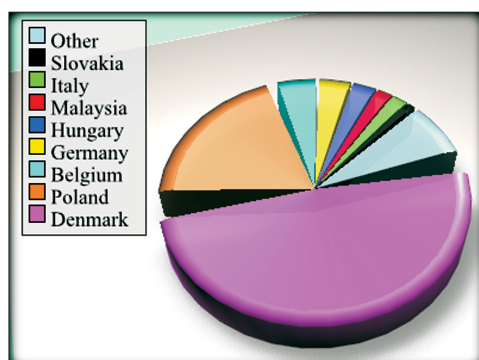
Figure 3. Structure of the total import of wooden windows in France per countries

Графикон 3. Структура увоза прозора од дрвета у Француску по земљама

Sudden increase of Poland participation is an important characteristic of wooden windows import into France during the period 2000-2005. In 2000, total import value of wooden windows from Poland was 3.5 mill. US$, which was 9% of total import. In 2003, import value from Poland rose to 8.4 mill. US$ (29%), and in 2005 it reached the level of 10.9 mill. US$ or 22% of total import. Sudden increase of the import of wooden windows from Poland is the result, to a large extent, of numerous companies from France which have their production plants in this country, as well as in Romania which participated with 1% or about 0.5 mill. US$ in total import of windows in 2005. In view of the participation of Serbia and Slovenia in the total French import of wooden windows, Slovenia participated with 0.4% with 201,000 US$ in 2005, while there was no import from Serbia. Slovenia achieved the highest value of wooden window export onto the French market in 1997 in the amount of 554,900 US$.

An important characteristic arising from the analysis of wooden window import into Spain (Glavonjić *et al*., 2006) and France comprises from the fact that about ⅔ of their import is made from Denmark. This shows that wooden windows producers and exporters from Denmark have extremely good position on the markets of these countries. Import of wooden windows is in its largest part achieved via wholesalers, and in a smaller degree via agents. Retail is realized via local warehouses whose owners are 'attached' to wholesalers.

4.2. Analysis of the relation between consumption and import value

Starting from the basic supposition that with the increase of wooden window consumption in France also the increase of the value of their import can be expected, analysis of their mutual relation was performed by using econometric methods. In that sense, the relation between consumption and import value is viewed through adequate econometric models (linear, degree and exponential). Their analysis showed the lack of high statistical significance, which directs to the conclusion that other factors than consumption impact import value to a much higher degree.

4.3. Consumption of wooden windows and the number of constructed flats in France

The main characteristic of wooden window consumption in France is its explicit dependence on the number of constructed and redecorated residential units (Figure 4). In
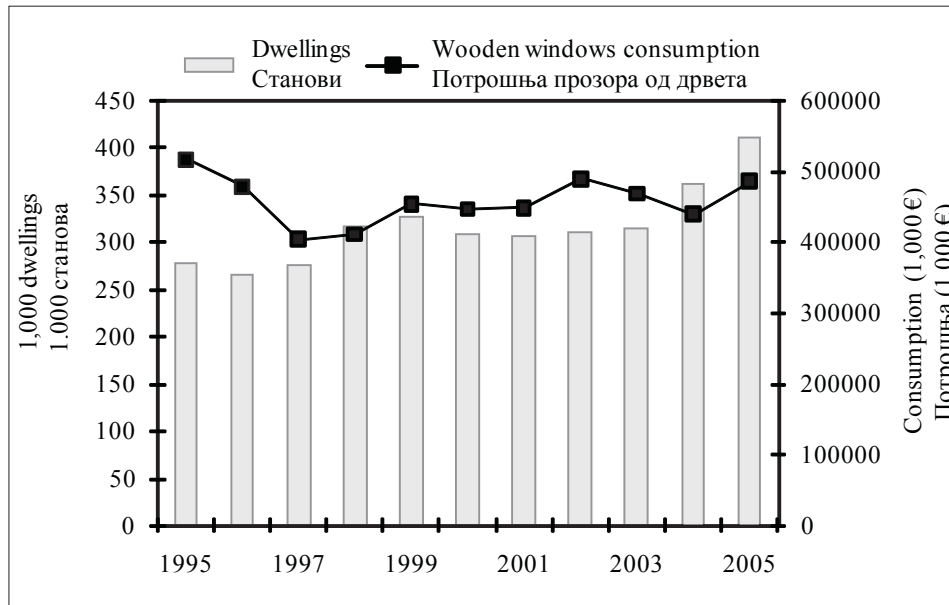
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Figure 4. Number of constructed dwellings and consumption of wooden windows in France
Графикон 4. Број новоизграђених станова и потрошња врата од дрвета у Француској

almost all years in the period 1995-2005, wooden window consumption was increasing and decreasing in accordance with the increase and decrease of constructed residential units.

The exceptions are only the years of 1997 and 2005, when, beside the increase of the number of the constructed residential units, decrease of consumption value of wooden windows occurred. One of the reasons for such occurrence is, of course, the period of starting construction.

It is obvious that a certain number of residential units were started in the second half of the year (for the observed years) when they were statistically recorded, and their completion occurred in the following year.

Therefore, the placement of wooden windows was performed in the following year taking into consideration the characteristics of construction process. Because of that along with other factors, the biggest drop of wooden window consumption in France occurred in 1997 and 2004. In 1997, consumption decreased for 15.9%, and in 2004, it decreased for 6.2%.

Consumption of wooden windows is provided from domestic production to the highest extent (table 1). Import participation in wooden window consumption was between 5.22% in 1999 to 9.06% in 2000. In the last three years, import participation in wooden window consumption was increasing and it was 8.49% in 2005.

5. CONCLUSIONS

Constant increase of the number of constructed residential units during three years in succession as well as the forecasts which show the continuation of the positive trend in that area have contributed and will contribute to the increase of the consumption of all wood products in France, including wooden windows.

Average annual increase of consumption value of wooden windows was 8.13 mill. € during the period 1997-2005, and average annual increase rate in this period was about 0.8%. If such increasing trend continues in the future period as well, it can be expected that the level of maximum consumption from 1995 will be reached in 2007, and even overcome it in later years. It implies the possibility that with such increasing consumption also the value of imported wooden windows increases as well. During the same period, average annual increase of import value was about 1.6 mill. €, and average annual increase rate was 1.7%.

The participation of import value in consumption value of wooden windows in France was on average 7.16%, and average annual increase rate of this participation was 1.18%. The expectations are that, from the present level, the participation of import value in the total consumption value rise by 1.18% annually. This means that from the level of 8.5% in 2005, in 10 years time (2015) import value will probably reach over the level of 10% participation in total consumption value.

All this indicates the realistic possibilities for import value to increase in the future period as well, which is in favour of the export strategy of producers, since there is a realistic opportunity to participate in such increased import.

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ОДНОС ПОТРОШЊЕ И УВОЗА ПРОЗОРА ОД ДРВЕТА У ФРАНЦУСКОЈ

Резиме

Истраживања у овом раду су вршена са циљем анализе учешћа увоза у потрошњи, као и његове регионалне усмерености како би се на основу резултата анализе утврдиле могућности извоза прозора од дрвета из Србије и Словеније.

Тренд раста броја изграђених стамбених јединица у Француској у последње четири године наставиће се и у 2007. и 2008. години, тако да су очекивања да ће се већ у 2007. години премашити рекорд из 1980. године. Имајући у виду да је употреба производа од дрвета, а посебно прозора и врата, у порасту на овом тржишту, може се очекивати да ће расти и потрошња прозора и врата од дрвета.

Просечно учешће увоза у вредности потрошње прозора од дрвета у Француској износило је 7,16%, а просечна годишња стопа раста овог учешћа износила је 1,18%, у периоду 1995-2005. године. На основу анализе добијених модела може се извести закључак да ће са постојећег нивоа учешће вредности увоза у укупној вредности потрошње расти за око 1,18% годишње. На основу тога, може се очекивати да ће у наредних 10 година учешће увоза у потрошњи прозора од дрвета премашити ниво од 10% или изражено вредносним показатељима око 60 милиона €.

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