

Determinants Which Influence The Tourism Investments In Greece

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Abstract—The objective of the study is to examine whether some determinants such as the investments through the investment motives of Developmental Law and Community Initiative LEADER, as well as any change in per capita Gross National Product had any effect on the investments in tourist sector in the Region of Western Macedonia and to which extent. Multiple Regression method has been used for the determination of the influence of both the investment motivations and per capita Gross National Product on the increase of beds. The grants under Developmental Law and Leader Initiative and the per capita GNP have been used as determinant variables of the model function. The study reveals that per capita Gross National Product constitutes possibly the most crucial factor for the determination of investments, while at the same time the second equally significant factors are the investments funded by Developmental Law and Leader Community Initiative.

Keywords—Community Initiative, Developmental Law, Per capita Gross National Product

I. INTRODUCTION

THE role of tourist planning and mainly the investments that are diachronically materialized in the sector of tourism is important within the frames of regional development **Error! Reference source not found.** Present study is aiming to record the longitudinal progress of investment activity in the Region of Western Macedonia for the time interval of 1991-2006 in conjunction with particular factors, which form and affect the investment activity **Error! Reference source not found., Error! Reference source not found., Error! Reference source not found.** The size of investment activity is directly depending upon the expected profitability of investments, meaning their ability to produce profits. Their implementation is influenced and associated with a series of factors such as the interest rate, the cost of capital goods, costs of labor, the taxes on enterprises profits, the investment motives arising from national and Community resources, the level of income and the product of economy, as well as the changes of these, the expectations and the psychological factors. The following study attempts - through the use of real data - to show and interpret the investment activity in the tourist sector of Western Macedonia associated with the investment motives (as these they were found in force diachronically via the developmental laws of Community Initiative LEADER), the per capita Gross Domestic Product and the Banking Rates of Interest.

II. LITERATURE REVIEW

A. The investment activity in hotel and tourist accommodation

In the period under review (1991-2006) an important investment activity in the sector of tourism it is recorded in the Region of Western Macedonia **Error! Reference source not found.** The number of beds in hotel and tourist lodgings in the four Prefectures of Region of Western Macedonia has been selected to be used as the basis of recording of this investment activity. The diachronic development of number of beds is impressed in the diagrams that follow.

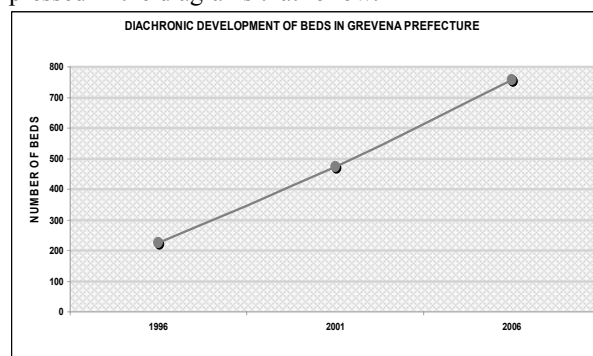


Fig. 1 Grevena Prefecture

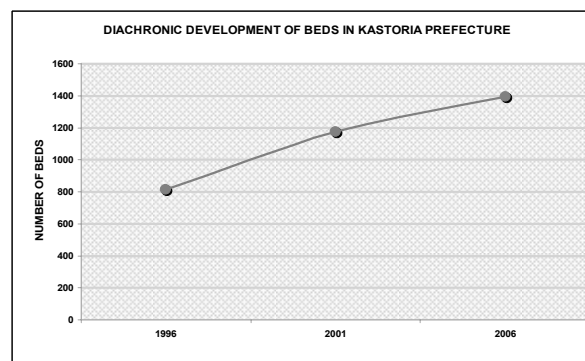


Fig. 2 Kastoria Prefecture

An intense increase in the number of beds it is observed by the diagram referred to the Prefecture of Grevena for the period under review (1991-2006). It is worth noticing that the number of beds in this Prefecture was doubled from 1996 to 2001. This augmentative tendency continued for the next years by recording a positive rate of change at the level of 60%. Regarding the development of beds in the Prefecture of Kastoria **Error! Reference source not found.**, an important change of their number it is observed from 1996 to 2001, while this change continued being positive for the next period at a smaller rate.

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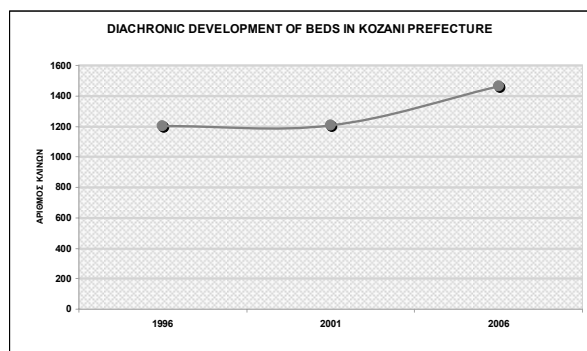


Fig. 3 Kozani Prefecture

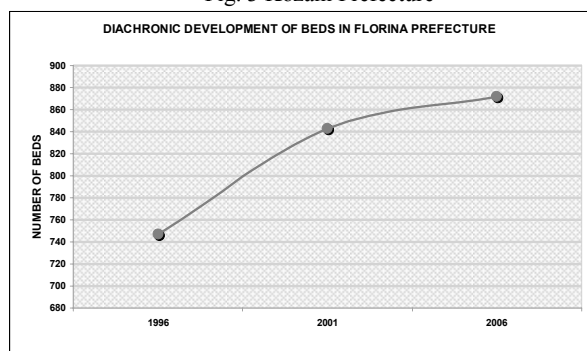


Fig. 4 Florina Prefecture

With regard to the Prefecture of Kozani, the number of beds remained the same for the period from 1996 until 2001, while presented an augmentative rate of change at the level of 20 for the next years. Different is the situation with the tendency of development of number of beds in the Prefecture of Florina. This was moved increasingly up to 2001, while for the next years it has continued its augmentative course at a lower rate. In the diagram that follows the diachronic development of beds in the whole Region of Western Macedonia is presented. In the period under review an important increase of number of beds has been noticed. It may be characteristically reported that in year 1991 only 2.500 beds were roughly recorded, while in 2006 the number of beds amounted in 4.500. That is to say that an augmentative tendency of the level of 80% may be observed.

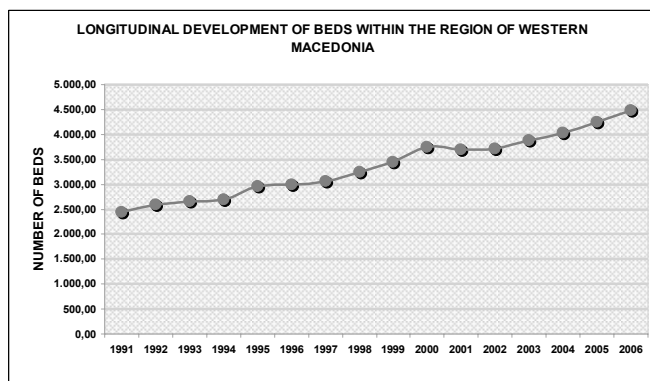


Fig. 5 Region Of Western Macedonia

B. Longitudinal application of investment motives through the developmental law

The ascertainment of necessity of more investments compared to those that are materialized by the enterprises of a region renders necessary the growth and application of a motives' system for their encouragement by each governmental policy. The motives that were diachronically applied in our country had the following form: a) partial funding of the cost of productive investment, v) funding of interest-rates of lending, c) exemption of a part of profits from tax imposition, d) reduction in insurance fees or other taxes that contribute in the reduction of functional cost.

In the period under review from 1991-2006 three different statutes were found in force concerning the reinforcement of investment interest in the hotel sector of Western Macedonia. More specifically, Law 1892/90 was found in force from 1991 to 1997, Law 2601/98 was in effect during 1998-2003 and Law 3299/04, as is in effect today, constitutes a development of two previous laws. In the tables that follow the percentages that strengthened the investments in the hotel sector are being presented, as these were found in force up to today.

TABLE I
INVESTMENT MOTIVES THROUGH DEVELOPMENTAL LAWS

Law	ESTABLISHMENT OR EXPANSION	MODERNIZATION
Law 1892/90		
GREVENA	15%	35%
KASTORIA	25%	35%
FLORINA	25%	35%
KOZANI	15%-25%	35%
Law 2601/98		
GREVENA	15%	25%
KASTORIA	25%	25%
FLORINA	25%	25%
KOZANI	15%	25%
Law 3299/04		
GREVENA	45%	50%
KASTORIA	45%	50%
FLORINA	45%	50%
KOZANI<800 m	39%	44%
KOZANI>800 m	44%	49%

From above three tables it becomes perceptible that the rates of aid for the investments in the hotel sector of Western Macedonia for the four prefectures of this region were increased diachronically for the period of 1991-2006. The change in the public expenses due to the different rates of aid for the period under review is being presented in the following chart. More particularly, the number of approved proposals of Law 1892/90 amounted to 20 with a total sum of public expenses at the amount of 1.528.219 Euros; the public expense of Law 2601/98 concerned 7 investment proposals of the total size of 2.452.542 Euros. Finally the application of Law 3299/04, which until today is in force led to the materialization of 13 investment proposals of total public expense of 6.691.267 Euros. Above sizes are presented in the

diagram that follows where an important ascendant tendency is being recorded. It is noticeable however that through the application of Law 3299/04 the higher sums of public expense-funding are being marked, a fact that is attributed to the increase of rates of aid for investments in the hotel sector.

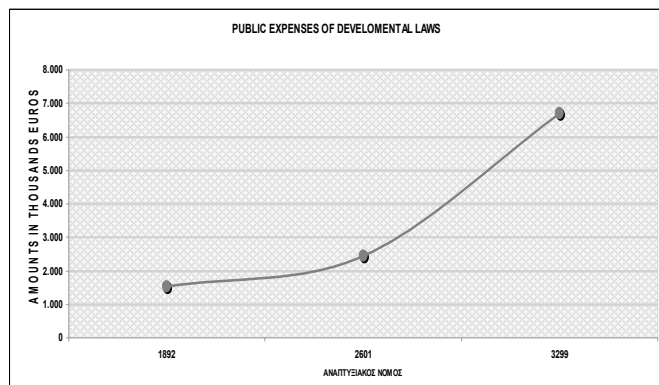


Fig. 6 Progress Of Public Expenses-Granting Through Development Laws

C. Longitudinal application of investment motives through the Community Initiative Leader

Community Initiative LEADER was in force in our country from 1991 up to 2006 **Error! Reference source not found.** It has been applied through three different forms during different time periods. More specifically LEADER I and II were in effect from 1991-1996 and from 1997-2001 correspondingly and aimed at the empowerment of countryside and rural economy of the Regions of European Union. LEADER + (2001-2006) constituted the temporal and qualitative development of two previous forms of Community Initiative of LEADER I and II **Error! Reference source not found.** The basic aim of the European initiative in question has been the improvement of quality of residents' life in the countryside through its continuous growth. This improvement may be achieved through residents' activities that develop natural, human and economic resources of their place, highlight its beauties, discover new sources of income and at the same time protect the natural and cultural heritage. The effect of its application on the investment activity of Western Macedonia Region is important for the hotel sector. The rate of grant through this for hotel sector investments remained stable and amounted to 50%. In the table that follows the development of new beds' number in hotels and lodgings is presented concerning the four prefectures of Western Macedonia after the application of LEADER Community Initiative.

TABLE II
PROGRESS OF BEDS NUMBER THROUGH LEADER

LEADER/ BEDS	GREVENA	KASTORIA	KOZANI	FLORINA
LEADER I	297	0	6	0
LEADER II	477	235	165	319
LEADER +	0	63	81	78
TOTAL	774	298	252	397

According to above table the significant contribution involved by the application of LEADER in the hotel sector of the region is resulted due to the creation of an important number of new beds in the four prefectures of it. The distribution of public expense amounted to 2.899.000 Euros for the Prefecture of Grevena, to 2.363.400 Euros for the prefecture of Kastoria, to 1.829.000 Euros for the prefecture of Kozani and to 2.678.801 Euros for the prefecture of Florina.

D. Longitudinal development of per capita Gross National Product in the Region of Western Macedonia

An important part of investments depends closely upon the level of income and the product of economy. The higher the level of income is and accordingly the per capita GNP of region's residents, the greater the number of sales and profits of enterprises are and so much greater accordingly is the investment **Error! Reference source not found.**; this is because when the profits of enterprises are high, the expectations for future profits are improved and this accordingly increases the marginal efficiency of capital and investment. Besides when the profits of enterprises are relatively high, the possibility of enterprises to self-finance any new investments is increased and the materialization of these investments becomes easier. For these reasons, the size of investments in the economy of a region during a time period is being considerably influenced by the level of product and the income of this period. A higher income means larger marginal efficiency of investment and consequently greater number of investments in each level of interest-rate **Error! Reference source not found.** **Error! Reference source not found.** In the following diagram the diachronic development of per capita GNP of residents of Western Macedonia Region is presented. Its development is regularly upward throughout all the period under review.

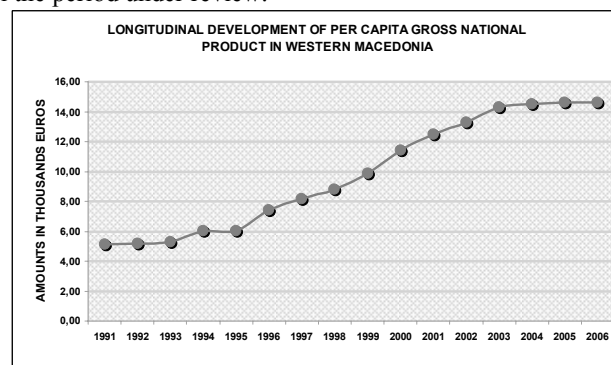


Fig. 7 Longitudinal Development Of Per Capita Gross National Product Within The Region Of Western Macedonia

III. METHODOLOGY

A. Sources of data

The sources of data are the following **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**

- National Statistics Service.
- The Archives of Development Agency of Western Macedonia – ANKO S.A.

- The Archives of the Direction for the Planning and Development of the Prefecture of Western Macedonia.
- The ICAP S.A.
- The magazine “Prefectures of Greece” by All Media Publications.

B. The model

At this point the influence degree of public grant through the developmental law and the LEADER Initiative, as well as the degree of GNP effect on the investments of hotel sector in Western Macedonia Region shall be studied.

The form of model that was chosen among various assessments, on the basis of the quality of results, is linear or exponential, the most usual expression of which is the following **Error! Reference source not found.**:

$$I = \alpha_o \cdot G_d^{a1} \cdot G_l^{a2} \cdot P^{a3} \cdot R^{a4} \cdot e^u \quad (1)$$

The above function, where the variables are presented multiplicatively, is known as function of fixed elasticity, because the elasticity of the dependent variable as for each exogenic variable is stable and equal with the corresponding exponential factor α_j . By the logarithm of the two parts, the nonlinear concerning the parameters and its variables function are converted to linear as for the factors of independent variables and in this form each method of assessment is henceforth applied **Error! Reference source not found., Error! Reference source not found.**:

$$Y = b_o + b_1 \cdot x_1 + b_2 \cdot x_2 + b_3 \cdot x_3 + u \quad (2)$$

Dependent variable $Y = \ln I$ that determines the investments in beds.

Independent variables:

$X_1 = \ln G_d$: Public expense through developmental laws

$X_2 = \ln G_l$: Public expense through leader

$X_3 = \ln P$: Per capita Gross National Product

$X_4 = \ln R$: Banking Rates Interest for middle and long term Investments.

u =error term

\ln denotes variables in natural Logs

IV. THE ESTIMATION RESULTS

The model has been evaluated with the application of least squares method **Error! Reference source not found., Error! Reference source not found.** by using the microfit software. The assessment results of this function are the following:

$$\ln \hat{Y} = \begin{matrix} 6,72+ & 0,018 \ln X_1 + & 0,016 \ln X_2 + & 0,51 \ln X_3 + & 0,073 X_4 \\ (63,08) & (2,34) & (2,83) & (5,97) & (1,18) \\ [0,00] & [0,02] & [0,02] & [0,00] & [0,26] \end{matrix} \quad (3)$$

In brackets under each regression coefficient some relevant values of “t”-statistics are indicated.

In square brackets are indicated the P-values.

Each coefficient is significant at the 5-per cent level except from the coefficient of the variable “Banking Rates of Interest” which is not significant at the 5-per cent level ($p > 0.05$).

After the elimination of the variable X_4 the new estimated equation regression for Investments in beds is the following:

$$\ln \hat{Y} = \begin{matrix} 6,76+ & 0,02 \ln X_1 + & 0,015 \ln X_2 + & 0,0251 \ln X_3 \\ (65,63) & (2,69) & (2,59) & (18,04) \\ [0,00] & [0,02] & [0,02] & [0,00] \end{matrix} \quad (4)$$

In brackets under each regression coefficient some relevant values of “t”-statistics are indicated.

In square brackets are indicated the P-values.

It is observed that the adjusted \bar{R}^2 is equal to 0.97. This value means that nearly 97 percent of the variation of the investments in beds is explained by the estimated equation (4). Each coefficient has the expected sign, with positive signs for the investment motives by developing laws, community initiative leader and the per capital GNP. Each coefficient is significant at the 5-per cent level.

From the Durbin Watson value ($DW = 2.2021$) we conclude that no serial correlation is noticed.

The above evaluations are generally acceptable, a fact that results from the statistical examinations accompanying the evaluations, as well as from the detail that signals of parameters that we evaluate coincide with the signals of a priori restrictions, as they have been previously analysed, but also at the statistical control of significance.

It should be also mentioned that the other two variables that have been used in the model were found statistically significant. Particularly an increase in granting through developmental laws of 100 Euros involves an increase of two new beds. Respectively, a raise of subsidy through LEADER of 100 Euros involves an increase of 1,5 new beds.

V. CONCLUSIONS

The objective of this study has been to examine certain variables that have diachronically influenced the investment activity in the Region of Western Macedonia for the period under review. It has been examined whether some factors such as the investment motives of Developmental Laws and LEADER Community Initiative, the change of per capita Gross National Product and the Banking Rates of Interest have effected and to what extent the investment activities in the hotel sector in Western Macedonia Region.

Specifically, within the period under review a stable and diachronic increase of the number of beds and lodgings had been recorded in the four prefectures of the Western Macedonia. During the same period the public expense, which had been carried by investment motives kept incremental. The change in per capita Gross National Product in Western Macedonia has been also remained positive and diachronically augmentative. It is also concluded that the change of the per capita GNP has been the most important factor of influencing the investment activity. The variable concerning the Banking Rates of Interest found not to be statically significant. Furthermore, it should be mentioned that the public expense in relation to investment motives were found statistically significant, its development influenced positively the size of investment activity in the hotel sector of Western Macedonia.

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