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Building Activity and the Expectations of Households and Constructors

- The households' planning for buying or building a home over the next 12 months is an important defining factor in building activity.
- Another important defining factor is the current level of orders, as it is perceived by constructors.
- The macroeconomic environment, as it is defined by the real GDP growth rate and the monthly Euribor cannot explain the fluctuations in building activity.
- Insufficient demand, financial constraints and shortage of labor force have an isolated effect on building activity. This relationship is overshadowed by the current level of orders and households' planning.

Building Activity and the Expectations of Households and Constructors

By E. Georgopoulos

1. Introduction

The real estate market plays an important role in a country's economic activity, because it affects the households' consumption behavior. In this paper, what is examined is the possibility to forecast building activity using data from the European Commission Business and Consumer Surveys. More specifically, the study attempts to examine, if these surveys contain information which can be used in order to estimate the future development of building activity in Greece. It is the first time in Greece that the EC surveys are used for the real estate market analysis.

2. Statistical data

2.1 Building Activity Index

The Building Activity Index is the most efficient in describing the realized activity in the real estate market. It covers the whole procedure from the beginning until the final erection of a building. Moreover, the National Statistical Service of Greece issues the volume of private legal building activity. It is noted that this volume refers to future and not realized building activity. Thus, the use of these data for the analysis of current developments in the real estate market is incorrect.

2.2 European Commission Surveys' methodology

Business and Consumer Surveys are very useful tools for short term economic analysis. They are based on questions to the corresponding economic factors. This

paper focuses on the survey conducted on the construction sector, which includes the building one. Five questions on a monthly basis and one on quarterly refer to the building sector. A question addressed to consumers is used in this paper as well. Table 1 contains the questions with the possible responses.

On the basis of the distribution of the various options for each question, aggregate balances are calculated for each one. Balances are the difference between positive and negative options. If a question has three possible options, the balance is calculated as the difference between positive (P) and negative answers (N). In the case of questions with five options, balances are calculated as $(PP + 1/2 * P) - (NN + 1/2 * N)$.

In the analysis, macroeconomic data are also used. More specifically, the real GDP growth and the monthly Euribor are used. Data frequency is quarterly and covers the period 2000:2007Q1.

3. Empirical analysis

Survey data are considered to contain information about the perceptions of the real estate constructors about the sector's supply and demand. The constructors' expectations are the result of the demand conditions that they consider exists. Moreover, the answers to the households' question are considered to express their expectations for future demand. Thus, a number of models with these as explanatory variables are estimated. Macroeconomic data are used as independent variables

Table 1
Surveys' questions and answers

Questions	Answers
Question 1: How was the building activity developed over the past 3 months?	<ul style="list-style-type: none"> • Increased (P) • Remain unchanged (C) • Decreased (N)
Question 2: What main factors are currently limiting your building activity?	<ul style="list-style-type: none"> • None • Insufficient demand • Weather conditions • Shortage of labour force • Shortage of material and/or equipment • Financial constraints • Other factors
Question 3: Do you consider your current overall order books to be...?	<ul style="list-style-type: none"> • More than sufficient (P) • Sufficient (C) • Not sufficient (N)
Question 4: How do you expect your firm's total employment to change over the next 3 months?	<ul style="list-style-type: none"> • Increase (P) • Remain Unchanged (C) • Decrease (N)
Question 5: How do you expect the prices you charge to change over the next 3 months?	<ul style="list-style-type: none"> • Increase (P) • Remain unchanged (C) • Decrease (N)
Quarterly Question: Assuming normal working hours, about how many months' work is accounted for by the work in hand and the work accounted for?	<ul style="list-style-type: none"> • Number of months
Consumers question: Are you planning to buy or build a home over the next 12 months (to live in yourself, for a member of your family, as a holiday home, to let, etc.)?	<ul style="list-style-type: none"> • Yes, definitely (PP) • Fairly likely (P) • Probably not (N) • No (NN) • Don't know (C)

as well. The dependent variable is the Building Activity Index. The models are estimated using econometric methods. The estimated coefficients reflect the sensitivity of the Building Activity Index to changes in the corresponding explanatory variables. It is important to note that all independent variables are used with one lag.

The model with the best performance is the one using as explanatory variables the current orders level and the households' planning to buy/build a residence over the next 12 months. The estimation of this model gave the following results:

$$Y_t = 233 + 0,31 \cdot ORD_{t-1} + 1,72 \cdot FUTCONSTR_{t-1}$$

(3,23) (2,30) (2,79)

where Y_t the Building Activity Index, ORD_{t-1} the current orders level (Question 3) and $FUTCONSTR_{t-1}$ the planning for buying/building a residence (Question to households). Numbers in parentheses denote the t-statistics. The coefficient of determination stands to 31.9%. Table 1 contains the basic statistics of the variables of the above model.

The relationship between the dependent and the independent variables is positive and statistically significant at the 5% significance level. This relationship reveals that the better the current situation of orders is

and the larger the number of households that plan to buy/build a residence over the next 12 months is, the larger the level of the Building Activity Index would be. Moreover, the importance of the households' planning is prevailing.

These two explanatory variables reflect the constructors' perception for the current level of demand and households' expectations for future demand. Thus, the future development of the Building Activity Index depends on the current demand and the expectations of future demand. In other words, if an improvement in these factors is observed, a corresponding improvement to the Building Activity Index should be expected.

The factors that limit the current building activity, expressed as an index, do not affect the Building Activity Index. However, insufficient demand, financial constraints and shortage of labor force have an isolated impact that is overshadowed by the current orders and households' planning.

The macroeconomic variables do not have a statistically significant relationship with the Building Activity Index

Table 3.1
Statistics of the model 1

	Y_t	ORD_t	$FUTCONSTR_t$
Mean	92,4	-20,7	-78,4
Median	94,1	19	-80
Standard deviation	21	7,7	4,9
Max value	141,8	8	-68
Min value	52,4	49	-86
<i>Autocorrelation coefficient</i>	0,27	0,80	0,63

Y_t : the Building Activity Index; ORD_t : describes the current orders level (Question 3); $FUTCONSTR_t$: the planning for buying/building a residence over the next 12 months (Question to households)

Source: NSSG, AMECO, Eurobank EFG Research

4. Conclusion

In this study, what is analyzed for the first time in Greece is the usefulness of the business and consumer surveys in the assessment of building activity. Using data from these surveys, it is concluded that the constructors' perceptions about the current orders level, combined with households' planning for buying/building a residence over the next 12 months, have a statistically significant relationship with the Building Activity Index. Thus, the future development in the building sector depends on the current demand and the expectations of future demand. The rest of the surveys data do not have a significant impact on the Building Activity Index, as well as the macroeconomic data.

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