Construction Sector's Contribution to the Albanian Macroeconomic Growth

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ABSTRACT

Construction is one of the main sectors of the Albanian economy and among the three biggest contributors in the country's GDP total output. Its share in the economy has been increasing for the past years. According to the INSTAT data the growth in the construction sector is higher than the GDP growth rate which it is an indicator of the highly dynamic development of this sector in Albania. In this paper, using by regression analysis the contribution of construction sector to the growth has been examined as an important source of Albanian macroeconomic growth.

Key words: *construction sector, growth, GDP, Albania.*

INTRODUCTION

Construction is one of the main sectors of the Albanian economy and among the biggest contributors in the country's real GDP or total output. Its share in the economy has been increasing during the past years. The growth in the construction sector is higher than the GDP growth rate which it is an indicator of the highly dynamic development of this sector in Albania. Table 1 gives growth rate in construction and GDP, and its contribution to the Albanian macroeconomic growth.

Table 1: The Economics of Albanian construction sector and macroeconomic growth in total output

| Years	Growth rate in construction (%)	Real growth rate in GDP (%)	Contribution of construction to real GDP growth (%)
1997	-16,9	-10,8	-0,8
1998	-13,3	9,0	-0,8
1999	19,4	13,5	0,9
2000	46,7	6,7	2,7
2001	32,7	7,9	2,5
2002	21,5	4,2	2,1
2003	23,1	5,8	2,6
2004	7,0	5,7	1,0
2005	6,3	5,7	0,8
2006	10,5	5,4	1,5
2007	12,2	5,9	1,8
2008	10,7	7,7	1,6

2009	0,2	3,3	

Source: generated from INSTAT by author.

Figure 1: Growth rates in construction, real GDP, and contribution of construction to the Albanian real GDP in 1997-2009
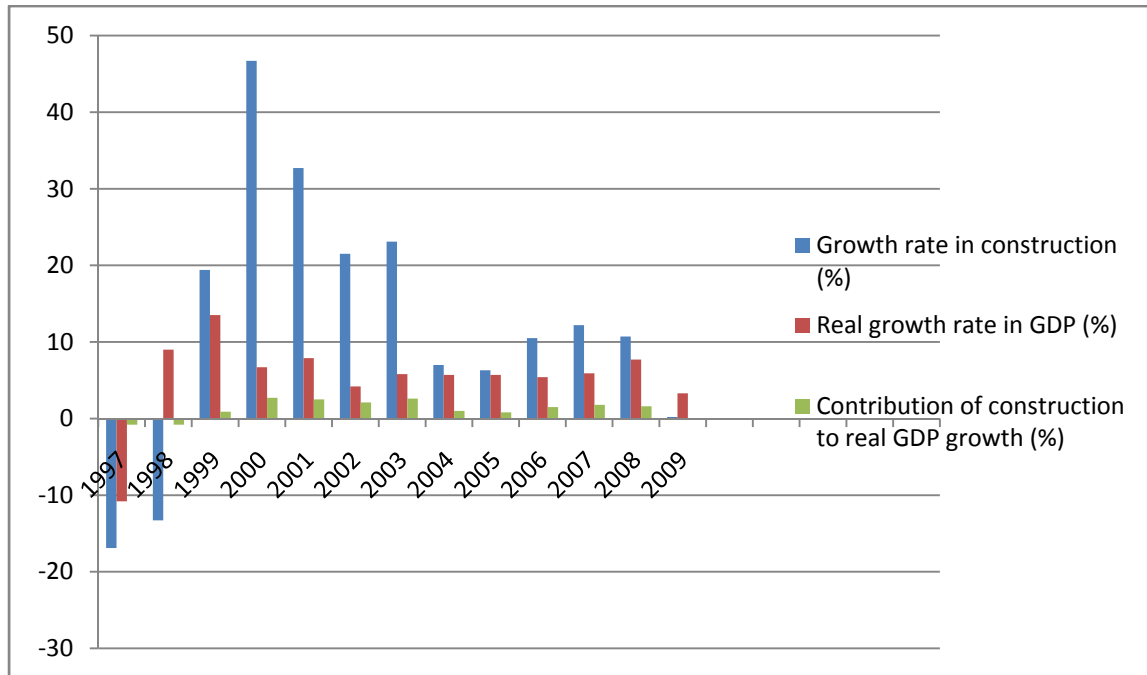
Figure 2: Development in real GDP and construction, and its contribution to the real GDP growth rate in Albania, 1997-2009
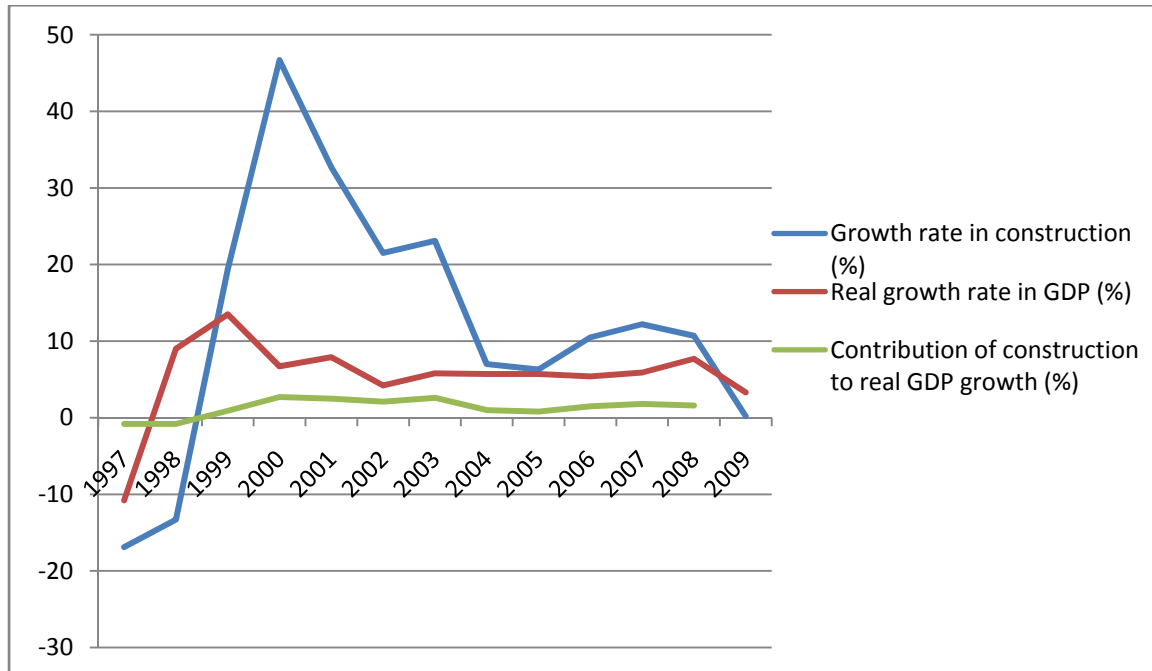
DATA BASE, METHODOLOGY AND ANALYSIS

Data base for regression analysis is generated by INSTAT from www.instat.gov.al web page in order to calculate the contribution of construction sector's to the real GDP or total output growth rate. Growth in construction sector and GDP at current prices (ALL) between 1996 and 2009 years are used in the regression analysis.

GDP was calculated by INSTAT only through production and expenditure approach and among those two, is being considered that production method-based on the information used-better expresses the GDP. The assessments presented for the first time in this publication including years 1996-2008 are methodically based in basic concepts of European System of Accounts (ESA'95) and System of National Accounts 1993 (SNA'93) of United Nations. The assessments of GDP include all present productions and services intended for the market as well as those produced for their own consumption and resident units operating in the territory defined as "economic" in Albania. This is the main source of revenues from which resident units profit their center of economic activity being above the economic territory. GDP according to the production method is calculated as follows:

GDP = GVA +TP+CT- SB

Where:

GDP *Gross Domestic Production (market prices)*

GVA *Gross Value Added (at basic prices)*

TP *Taxes on products including VAT*

CT *Customs Tax*

SB *Subsidies on products and imports*

This paper uses the regression analysis model in order to analyze the relationship between Albanian construction sector and real GDP growth rate or total output, and the contribution of its to the macroeconomic growth or economic performance of the Albanian economy. The linear regression equation is as follows:

$$Y = \alpha + \beta * X + \varepsilon$$

Where:

(Y) The dependent variable = *growth in GDP or total output at current prices (ALL)*

(X) The independent variable = *growth in construction sector at current prices (ALL)*

(β) The coefficient of the independent variable

(α) Intercept parameter

(ε) The standard error

Table 2: Data base for regression analysis

Year	Growth in construction sector at current prices (ALL)	Growth in GDP at current prices (ALL)
1996	17,011	346,403
1997	20,172	346,198
1998	19,335	409,209
1999	26,943	471,758
2000	39,979	523,043
2001	56,450	583,369
2002	69,165	622,711
2003	87,047	694,098
2004	94,432	751,022
2005	101,759	814,797
2006	113,724	882,209
2007	129,585	967,670
2008	145,215	1,088,132

2009	145,519	1,143,610

Source: generated from INSTAT by author.

According to the regression result;

X Variable coefficient = 5.528906804

*Intercept coefficient =*267754.0453

 R Square =   0.979947278

Standard Error= 0.228314745

*t Statistics =*24.21616179

So, *estimated regression equation* is as follows:

Y_t*= 267754.0453 + 5.528906804 * X_t*

It can be *estimated GDP growth* by using *predicted regression equation* as in the following table 3.

Table 3: Predicted GDP growth

Year	*growth in construction sector (X)*	*growth in GDP (Y)*	*predicted Y*
1996	17,011	346,403	361806.2789
1997	20,172	346,198	379283.1533
1998	19,335	409,209	374655.4584
1999	26,943	471,758	416719.3813
2000	39,979	523,043	488794.2104
2001	56,450	583,369	579860.8344
2002	69,165	622,711	650160.8844
2003	87,047	694,098	749028.7959
2004	94,432	751,022	789859.7726
2005	101,759	814,797	830370.0728
2006	113,724	882,209	896523.4427
2007	129,585	967,670	984217.4335
2008	145,215	1,088,132	1070634.247
2009	145,519	1,143,610	1072315.035

Figure 3: Scatter diagram
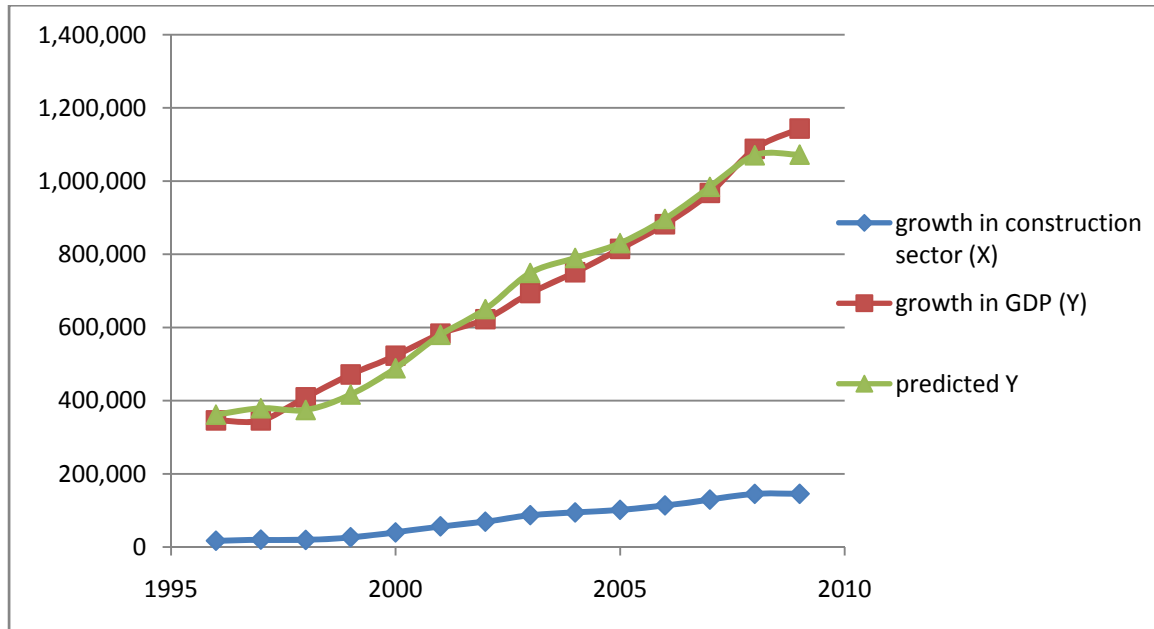
CONCLUSION

According to the regression results, it can clearly say that Albanian GDP growth strongly depends on construction sector's growth. The coefficient of determination explains important and significant relation between macroeconomic performance and construction sector's growth. As a result, Albanian construction sector maintains the sustainable important role and key determinant in determination of macroeconomic performance or economic growth in the long run.

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Annex:

SUMMARY
OUTPUT

Regression Statistics	
Multiple R	0.989922865
R Square	0.979947278
Adjusted R Square	0.978276218
Standard Error	38869.45881
Observations	14

ANOVA

	df	SS	MS	F	Significance F
Regression	1	8.85988E+11	8.85988E+11	586.4224921	1.47951E-11
Residual	12	18130017934	1510834828		
Total	13	9.04118E+11			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	267754.0453	20256.59027	13.21812021	1.63526E-08	223618.7266	311889.364	223618.7266
X Variable 1	5.528906804	0.228314745	24.21616179	1.47951E-11	5.031451709	6.026361899	5.031451709