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Kenya's Construction Industry Output Response To Commercial Bank's Lending Interest Rate (1991 – 2016)

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Introduction

- **Role of Construction industry:** Its key responsibility in any economy, is provision of physical constructed facilities and consequently, other activities get space for their operations

Hillebrandt, 2000)

Introduction Cont...

The industry is charged with activities ranging from:

- Erection of buildings

- Works involving civil engineering structures

- Repairs and demolitions

(Hillebrandt, 2000)

Introduction Cont...

Construction industry and property industry are intertwined.

- Construction industry does the development of the constructed facilities production procedure

- Property Industry concentrate on the *constructed-facility output*

(various Authors)

Introduction Cont...

The industry is a key contributor to Kenya's GDP even though it grows very slowly;

- It contributed 4.8% in 2013/2014 to the GDP

- The GDP itself grew by 13.3%

This is an indication that the industry is indispensable to the country's economy.

(Economic Survey,2015)

Introduction Cont...

- Construction industry also provides employment to many.

- In 2015 for example the construction industry employed 148,000 people up from 132,900 people it employed in 2014

(Economic Survey Report, 2016).

Interest Rates and Construction Industry

- Interest rates play out openly and very strongly in any general capital investment

- Therefore, interest rate is among other factors considered in construction investment decision making   (Akintoye & Skitmore, 1991)

Cont…

- projects in construction industry are usually financed using credit facilities provided by financial institutions;

- The industry borrowed Kshs.70.8 billion in 2013 and Kshs.80.4 billion in 2014 giving a rise of Kshs. 9.6 billion in just a single year

(KNBS)

Method

Time series analysis was used to analyze the time series data which were collected. This involved carrying out :

- Graphical analysis

- Correlation analysis

- stationarity tests and finally,

- regression analysis.

Method Cont...

The regression Equation used in this analysis is:

$$CO_t = \alpha + \beta_1 LIR_t + \varepsilon$$

Where:

CO_t = Construction Output at a given time

LIR_t = Lending interest rate at any given time

β = Coefficient

α = (the value CO_t when explanatory variable is set at zero)
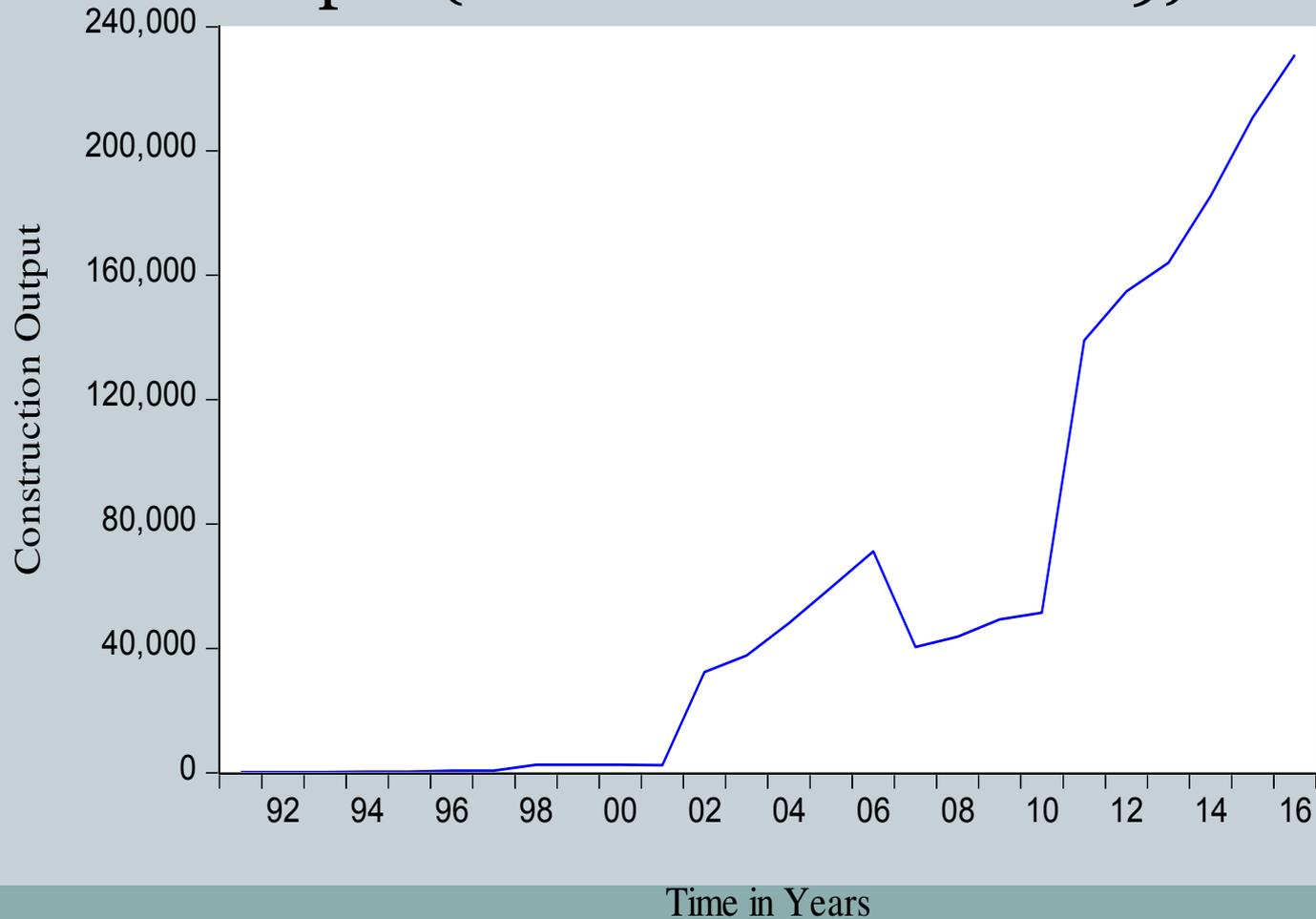
ε = Error term or residual

t = Specific year(time)

Graphical Analysis

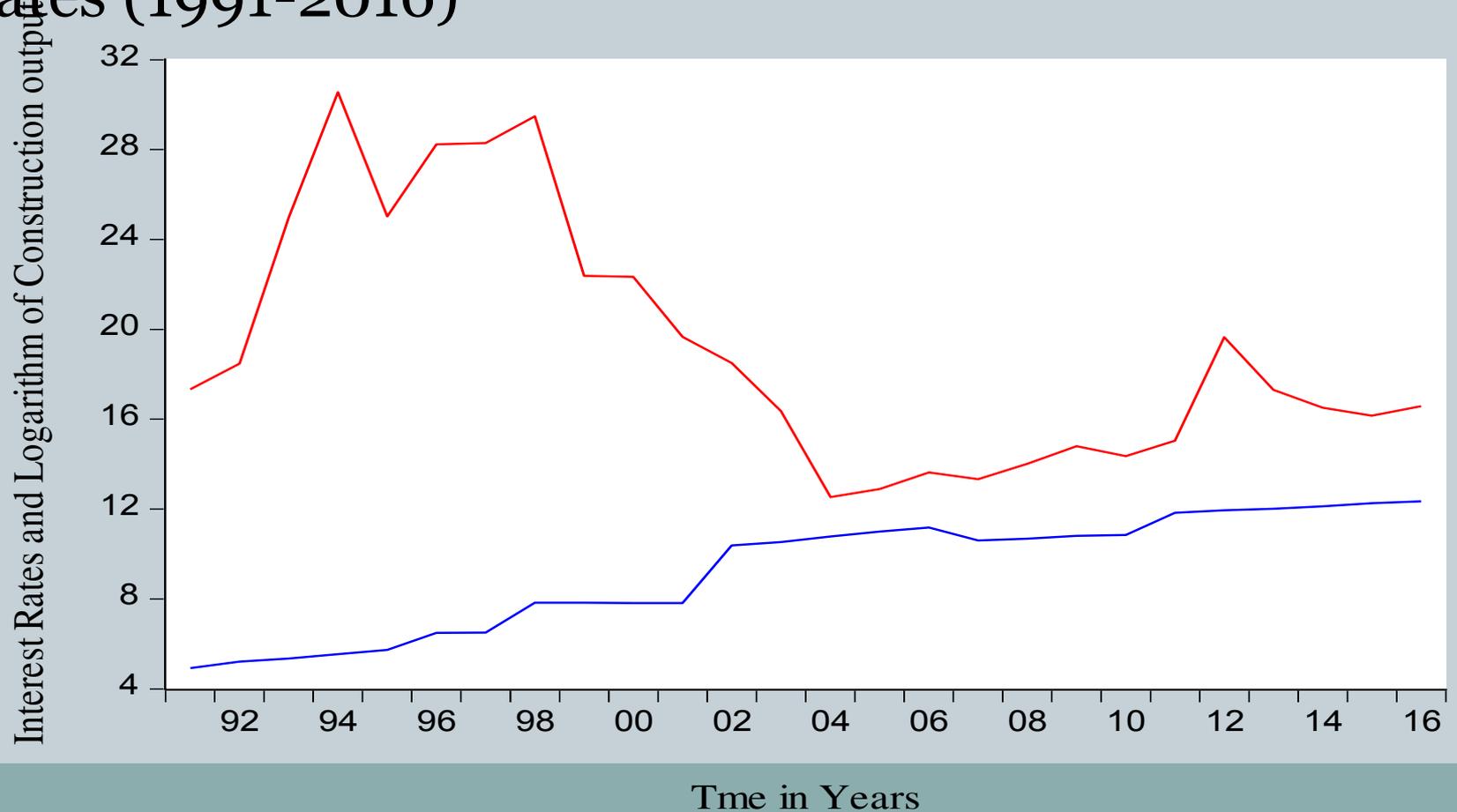Construction Output (Constant Prices - 2009)

Graphical Analysis Cont...

Lending Interest Rates (1991-2016)

Graphical Analysis Cont...

Logarithm of Construction Output and Lending Interest Rates (1991-2016)

Correlation Analysis

Correlation Coefficients (r)

	CO	LIR
CO	1	-0.456
LIR	-0.456	1

Results show a strong and inverse correlation.

Test of Stationarity

- This test comes before regression analysis to ensure the regression analysis is not spurious.
- Augmented Dickey Fuller (ADF) method of stationarity test was used for this purpose
- The second differences were found to be stationary
- The data gave P-values of 0.0001 and 0.0000 for construction output and lending interest rate respectively

Regression Analysis

- The results showed no significant impact of LIR on construction output in the current year ($R^2 = 0.07$).

- Regression results of construction output (CO) on LIR lagged by 3 years gives R^2 value of 0.17 which is an indication of strong explanatory powers.

- The regression coefficient β is -0.112 depicting adverse influence of LIR on CO when LIR is lagged by 3 years.

Discussion

- Graphical, correlation and regression analysis show similar results that, construction output and LIR in Kenya pull in different directions.

- In graphical analysis, it shows when LIR is high CO is low (eg 1990s to around 2004)

- In correlation analysis, coefficient r = -0.456

- In regression analysis, coefficient (β) =-0.112

Discussion Cont...

- Even though the link between construction industry and the LIR in Kenya appear to be very strong , it appears there are other factors which affect construction industry alongside LIR

- The effects are felt much later after new rates of LIR are implemented.

- This is indicated by lags of 3 to 4 years

Conclusions

- In graphical analysis, an observation is made that when LIR goes up, CO goes down.

- Correlation analysis gave similar scenario by giving strong and negative coefficients

- Regression analysis also shows a strong impact of LIR on CO in Kenya – an indication of dependency on borrowed funds by developers.

Conclusions Cont…

It is therefore concluded that:

1. construction industry output in Kenya is shot down by lending interest rates

2. It is therefore possible to stimulate demand for construction through interest rate policy

3. It reaffirms the notion that LIR stands at a central position during decision making to construct

4. The link between construction market and financial market in Kenya is seen to be very strong and therefore it should inform policy formulation in the country.

END

THANK YOU