Modeling Inflation Dynamics In The Construction Sector Of A Developing Economy

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INTRODUCTION

Problem	→	Price Stability
Purposes	→	Modeling the Stability
Perspectives	→	Phenomenon of Stability
Procedure	→	Pattern of the investigation
Product	→	Prices dynamics analysis
Proposal	→	Possibilities for Decision making
Policy	→	Programming for stability

THE PROBLEM

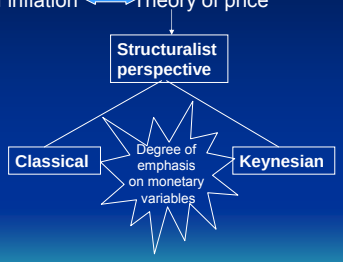
- Price stability as a principal economic goal
- Price stabilizaation requires understanding of the inflationary dynamics
- The value of the inflation in construction sector remained a subject of inquiry

THE PURPOSE

- Inflationay trend/dynamics in the industry
- Comparative sectoral inflationary dynamics and the economy-wide inflationary value
- Time Series models of construction sector prices
- Models of construction prices using CPI

PERSPECTIVE I

- Theories of inflation ⟷ Theory of price



PERSPECTIVES II

- Inflation dynamics: Observing rate of inflation over time

Types
: Alternating and successive increases in prices
: Disequilibrum in demand and supply
: Creeping
: Galloping
: Hyper

PERSPECTIVE III

- Inflation
  - Contracting Practice
  - Fluctuation – Budgeting instability
  - Anticipated increase in imput cost - AIIC
  - International contractors prospecting work in Developing economies
  - Property Development in inflationary economy

Descriptive Results

- Procedures

Trend analysis : Growth rate ⇒ $\left(\frac{y_t - y_{t-i}}{y_{t-i}}\right) x100$

Indexing ⇒ $\left(\frac{y_t}{y_{t_0}}\right) 100$

⇒ $\left(\frac{\sum I_{yi}}{m}\right)$

- Time Series analysis - Stationarity properties
  - Economic conditions
  - Statistical properties
- Regression analysis: Economics and statistical properties

Descriptive Results

Quarterly Growth Rates

Mean Growth Rate of:	Mean Percentage Growth rates		
	Whole period 1986-2003:4	1986:1 to 1999:4	2000:1 to 2003:4
Basic material Prices	9.15	9.40	8.28
Basic labour Wages	13.80	14.85	10.19
Unit Rates (Prices)	8.71	10.50	2.54
All item CPI	6.45	7.19	3.88

Estimated and forecast of the unit rates

- Highest inflation rates during military regimes – Transition period
- Lower inflation rates during democratic era
- All items CIP slowest growth rates
- The trends for all categories is similar

Time Series Model

- Equation of the form

$$P_t = \alpha_l + \beta_l P_{t-1} + \varepsilon_1$$

- Independent variables are +vely signed & significant predictors
- Intercept +vely signed but not significant at 5%
- Existence of serial correlation
- Within data forecasting ability robust

Regression Model

Model Form: $P_t = \alpha + \beta CPI_t$

- For Basic material prices, labour & unit rates
- Goodness of fit
- High degree of explanation of the price variable
- Low D.W statistics
- Long run predicting ability suspect

PROPOSAL

- Price stability Vs political environment
- Labour wages moving faster than other price measures
- CPI rates lower that construction prices'
- Time Series – Forecasting future value of the series
- Regression model – Estimating using economy wide CPI possible

Policy Issues

- Contracts, Consultants, Clients
  - Reliance on CPI as measure of construction sector inflation? Call for CS inflation values as imput in business decision
- Government
  - Maintenance of stable political environment
  - Labour wage management to curtail inflation
- Research Community
  - What macroeconomic factors predispose construction sector prices to dynamic moves in various political situations
  - Model refinement – using economic approach

THANK YOU

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