

# Demand Forecasting for Lucky Cement

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### Introduction

As we know that demand is the Quantities of a good or service that people are ready to buy at various prices within some given time, other factors besides price held constant I tried to forecast the sales for next years. I removed seasonality factors and applied other determinants to predict the demand.

### Key findings

So, by using values of independent variables in my Regression, the Annual Sales of Lucky Cement for period 2020-2021 is found to be around **7.9 Million Tons**.

### Conclusions

So, by using these coefficients and intercept I forecast the annual sales of Lucky Cement. According to the world bank report, the Remittances would be around 25 billion Dollar and Borrowing Rate would remain same at 7% and Government of Pakistan has projected GDP Growth rate at 2.4% for 2020-2021 period.

### Methods

I applied regression analysis on the sales data of last 10 years. Time series analysis and causal approach were used for forecasting.

### Regression Results and Data

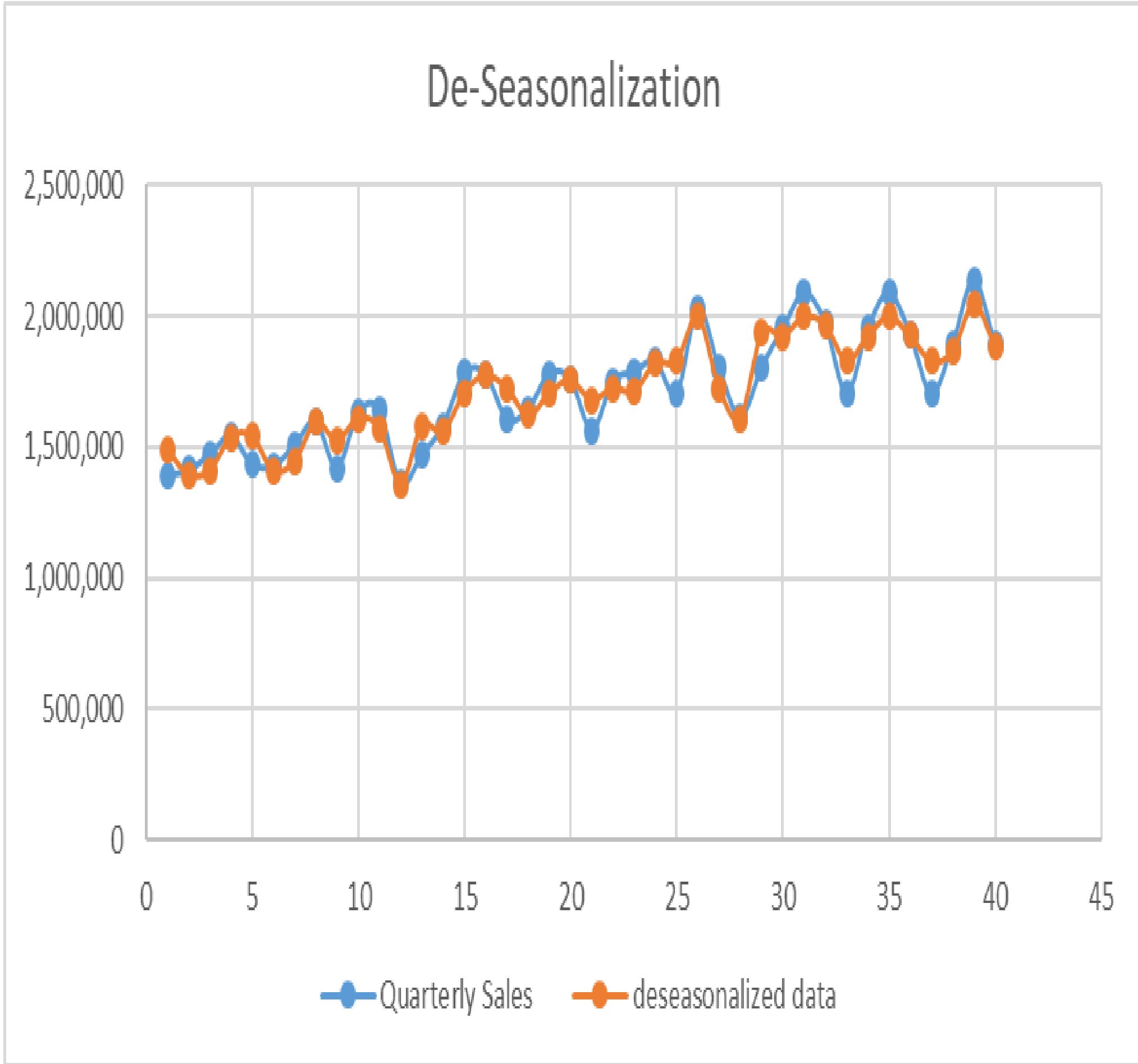
Regression Statistics	
Multiple R	0.815859
R Square	0.665626
Adjusted R Square	0.637762
Standard Error	127073.6
F- Value	23.88799
Observations	40

	Coefficients
Intercept	495005.0743
GDP Growth (%)	1682709.813
Remittances (US\$)	5.52613E-05
Borrowing rate	1586072.759

### Time Series Analysis

Time Series analysis can be useful to see how a given asset, security, or economic variable changes over time. The process of decomposition starts with identifying and removing the seasonal factor from our series of numbers in order to calculate the trend. I use the method of moving averages to isolate seasonal fluctuations.

### Graphic Elements (Time Series)



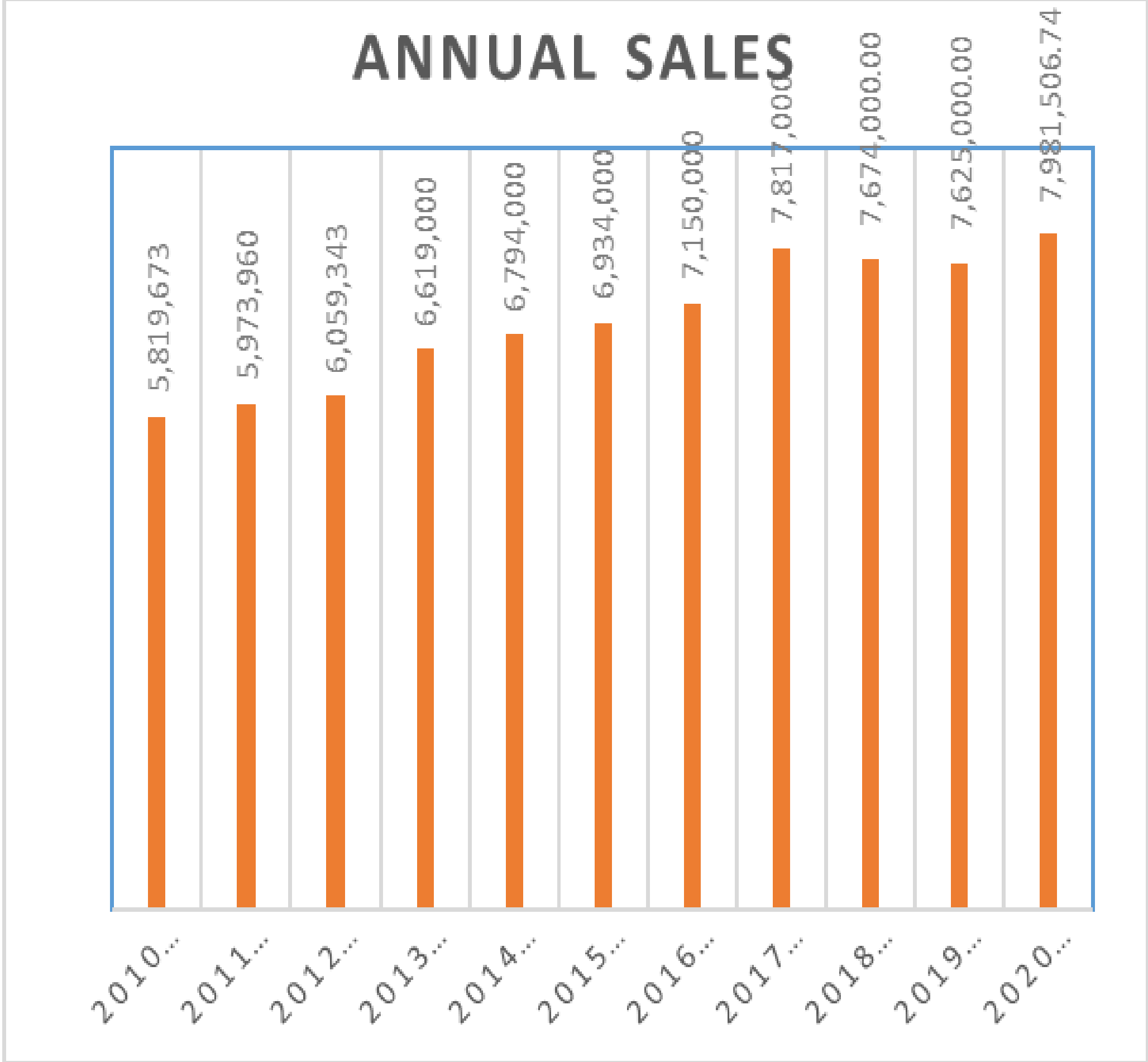
### Acknowledgements

Dr. Lalarukh Ejaz  
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### Causal Approach

Causal research, also called explanatory research, is the investigation of (research into) cause-and-effect relationships. I also considered non-price determinants in my analysis but remittances, borrowing rate and GDP growth were taken into account for completing research.

### Graphic Elements (Annual Sales)



### References

- Lucky Cement’s Annual Reports
- Managerial Economics Book by Paul Keat and Philip K. Y. Young