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USD EXCHANGE RATE MODELLING

Introduction & Motivation

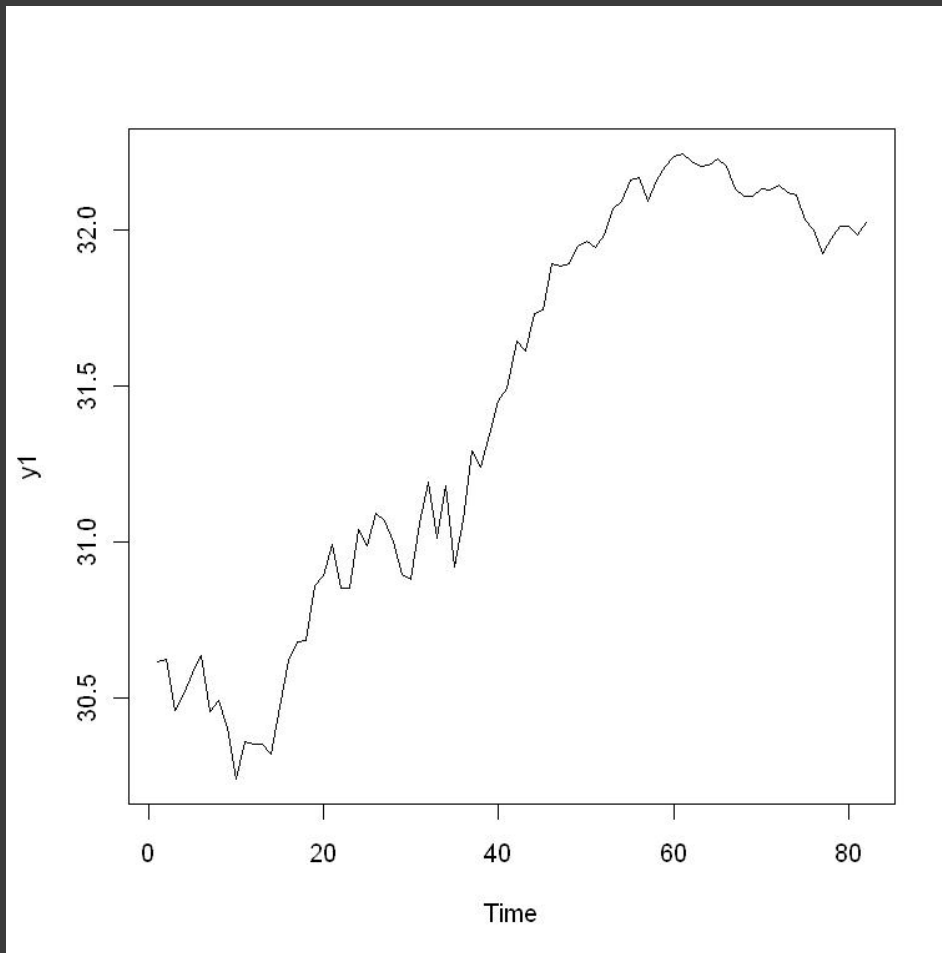
- ◎ Recently, there were many news said that the exchange rate of USD will lower than NT\$ 30, and before that, also said the same things. So I wonder know if there are some relationship between both .

Data

date	rate	cash
20101124	short	30.617
20101123	short	30.627
20101122	short	30.462
20101119	short	30.512
20101118	short	30.582
20101117	short	30.637
20101116	short	30.457
20101115	short	30.492
20101112	short	30.407
20101111	short	30.242
20101110	short	30.362
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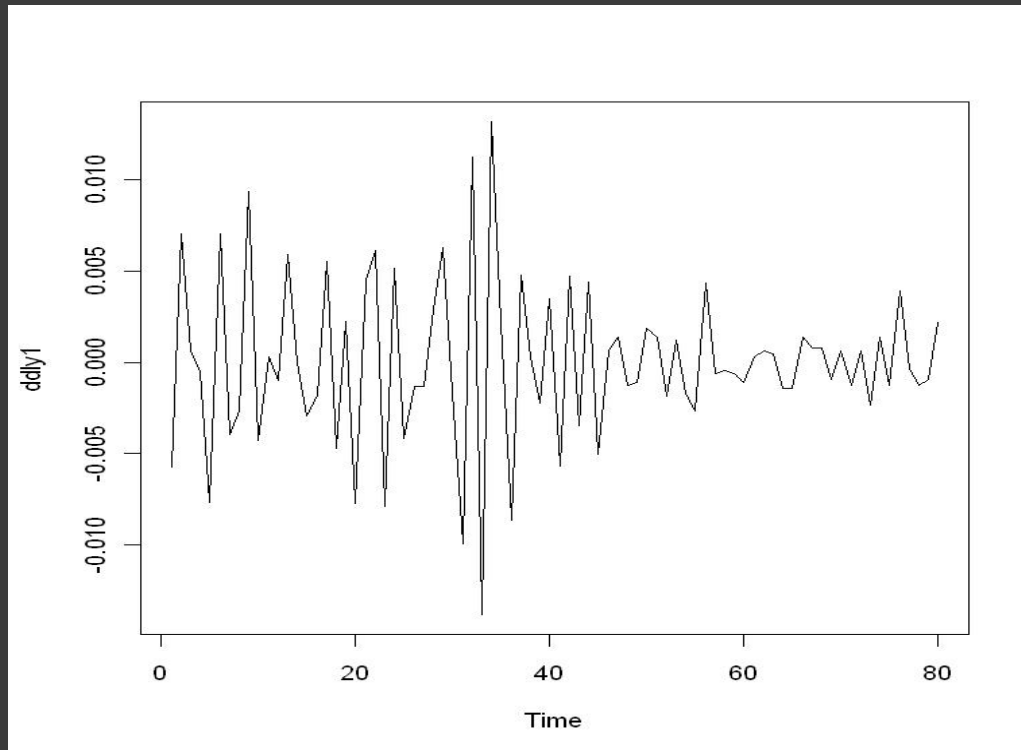
Data Source : Taiwan Bank

Time Series Plot



Plot of Transformation

- Take a log transformation and difference twice.



Methodology

- ⦿ According to the transformation plot, it's obvious not stationary.
- ⦿ Because the variance is not constant, that we can't use any model we have learned in class.
- ⦿ To fit this data, we need to use other time series model.

Regime Switching Models

- Self-exciting threshold autoregressive model (SETAR).
- Markov switching autoregressive models. (MS-AR)

References

- Mohd, T. I. & Zaidi, I. 2006. Modelling Exchange Rates Using Regime Switching Models. *Sains Malaysiana* 35(2)2006:55-62.
- James, D. H. 2005. Regime-Switching Models. *Department of Economics, 0508*.