

# SUBSTITUTION EFFECTS ACROSS SAVING INSTRUMENTS IN A LOW INTEREST RATE ENVIRONMENT: THE CASE OF TRINIDAD AND TOBAGO

By

*Dave Seerattan and Julia Jhinkoo*

Caribbean Centre for Money and Finance

The University of the West Indies

St. Augustine Campus, Trinidad



**CARIBBEAN CENTRE**  
FOR MONEY & FINANCE



# Overview

- Motivation of Study
- Literature Review
- Preliminary Findings : Trinidad and Tobago
- Further work to be done



# Motivation of Study

- The depressed demand conditions of most world economies in the last four years have created a situation where the financial sectors have been characterised by low interest rates by historical standards.

Figure 1: Historical 10 Year Average of Deposit Interest Rate of Selected World Countries

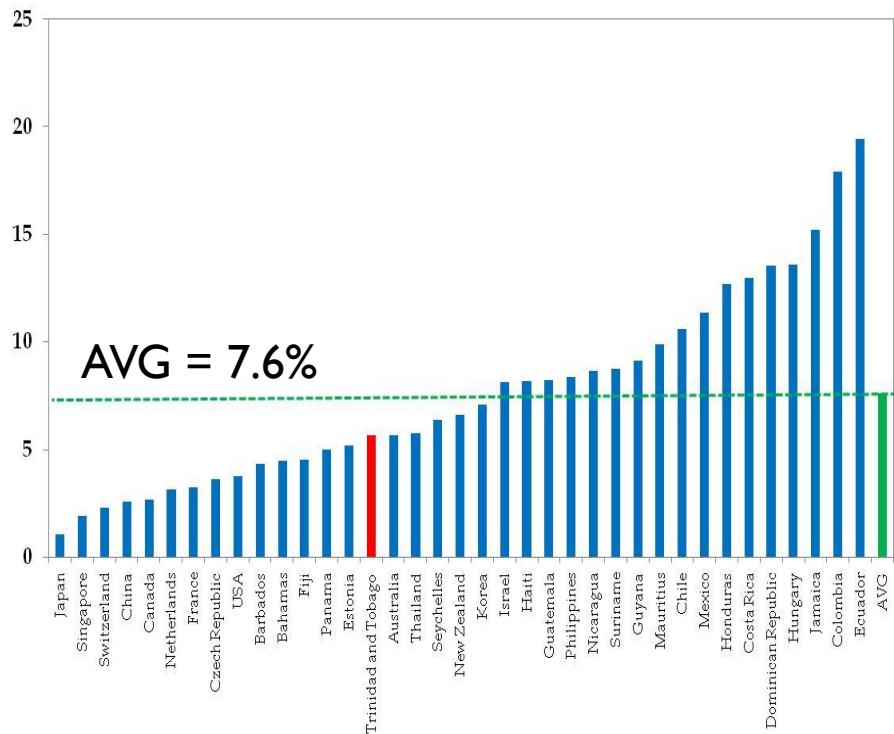
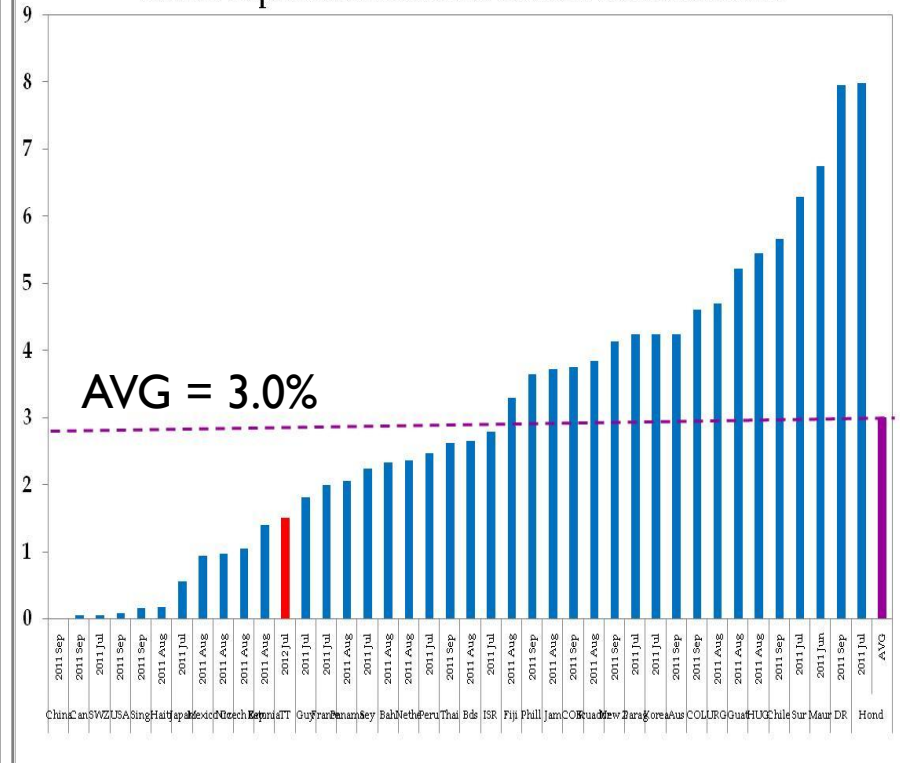


Figure 2: Current Deposit Interest Rates of Selected World Economies



# Motivation of Study

- Persistent low interest rates → lower lending standards in the medium term and erode the value of savings → leading to substitution effects away from relatively safe instruments to more exotic and risky investments in the search for higher yields.
- This paper seeks to examine the extent of this phenomenon and the possible consequence for risk management and financial supervision in Trinidad and Tobago.



# Literature Review

Studies that have examined the substitution effects across saving instruments when interest rates are low are limited.

- **Substitution of Savings Deposits for other Financial Assets**
  - Alhadeff and Alhadeff (1958)
  - Hamburger (1968)
  - Sa et al (2011)
  - Mayer and Hubbanrd (2007)
  - Laibson and Mollerstrom (2009)
- **Impact of Low Interest Rates :**
  - Cato and Mackenzie (2006)
  - Braun et al (2007)
  - Antolin et al (2011)
  - Kablau and Wedow (2011)



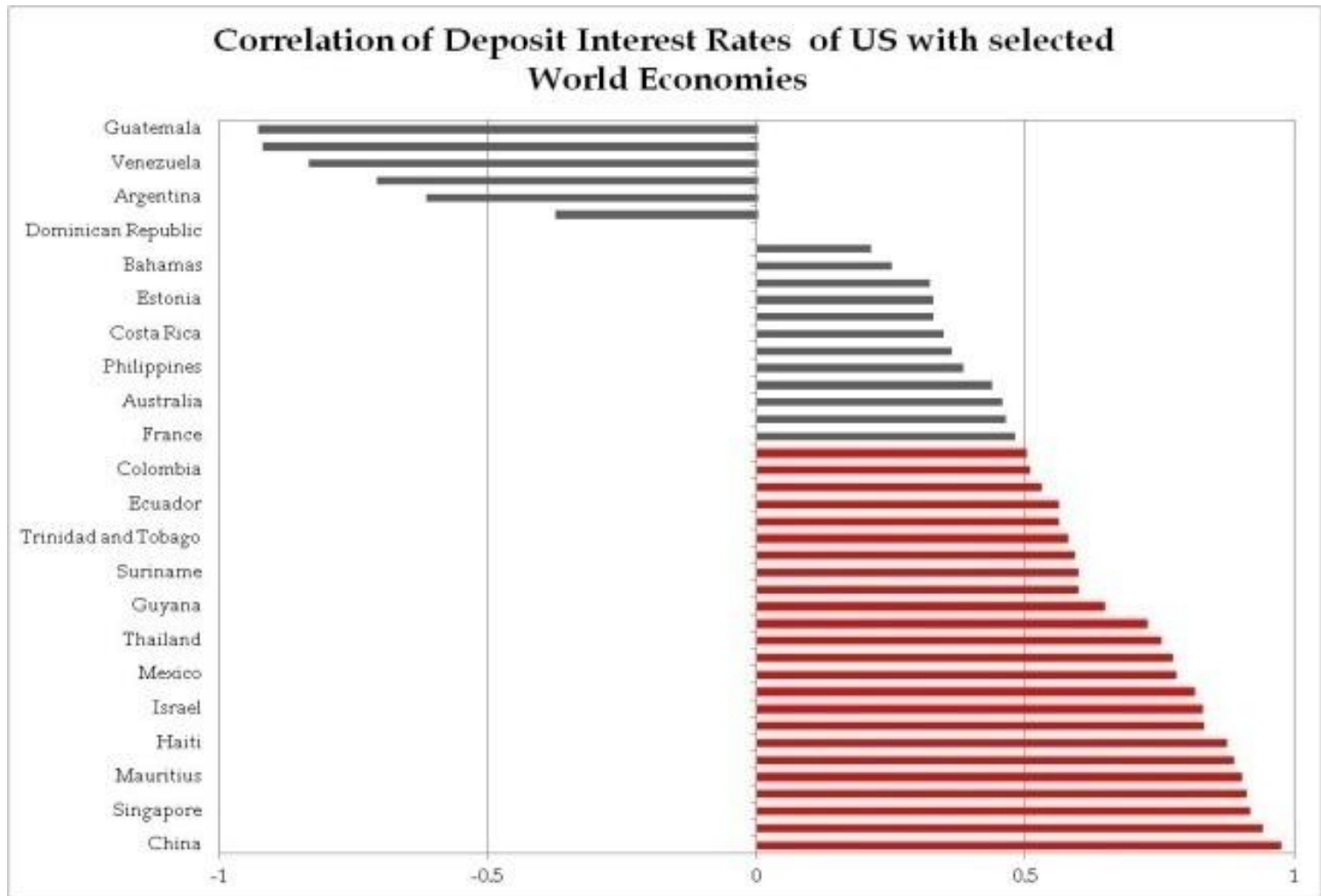
# Literature Review:

## Problems of measuring Substitution of Assets

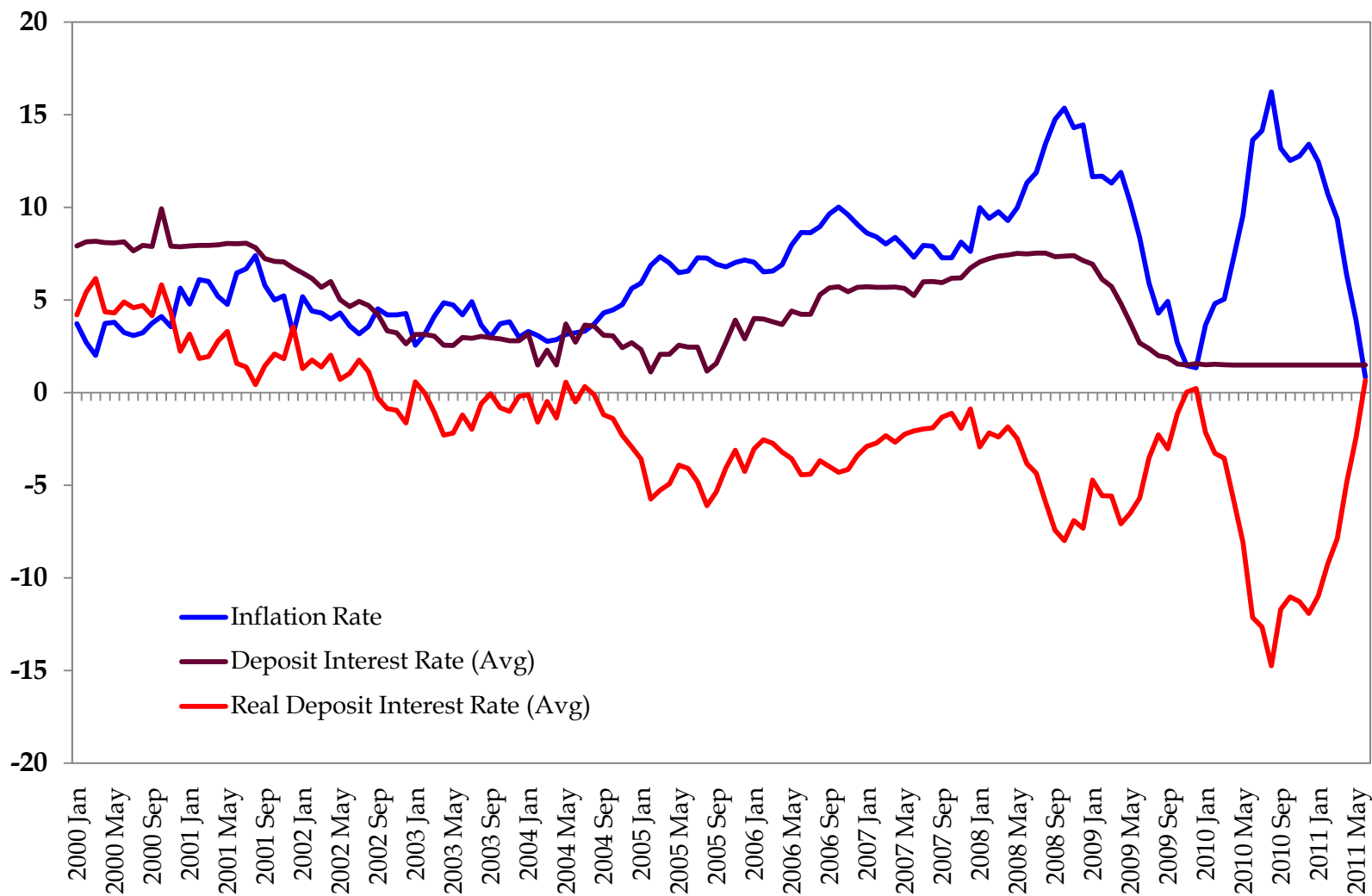
- Most of the studies had issues with the availability of the data and which data to use as a measure for substitution the only study found to have a complex model was the one done by Hamburger (1968).



# Stylized Facts – Deposits Interest Rates of USA and World

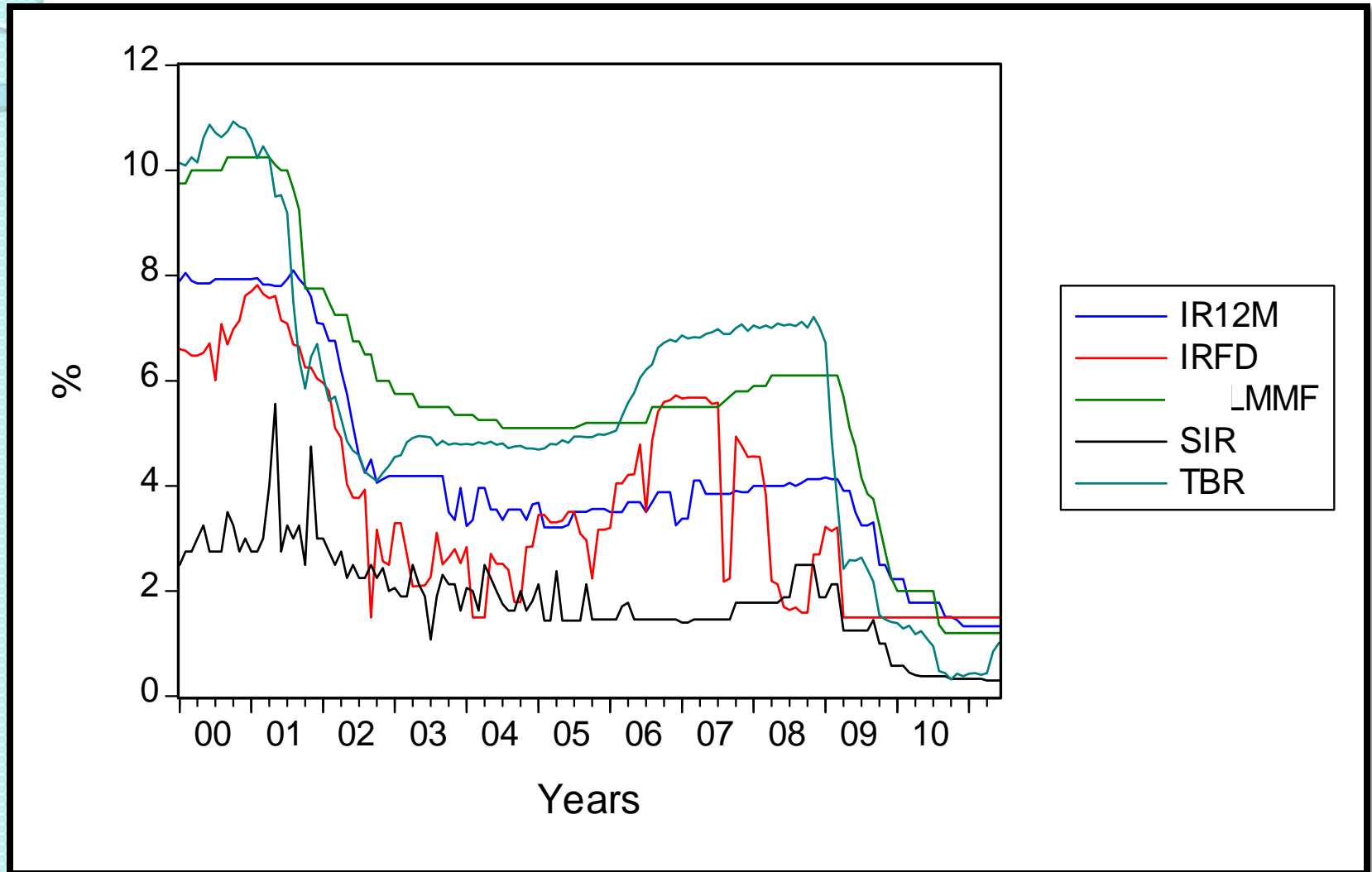


# Stylized Facts – Real Interest Rates of Trinidad and Tobago

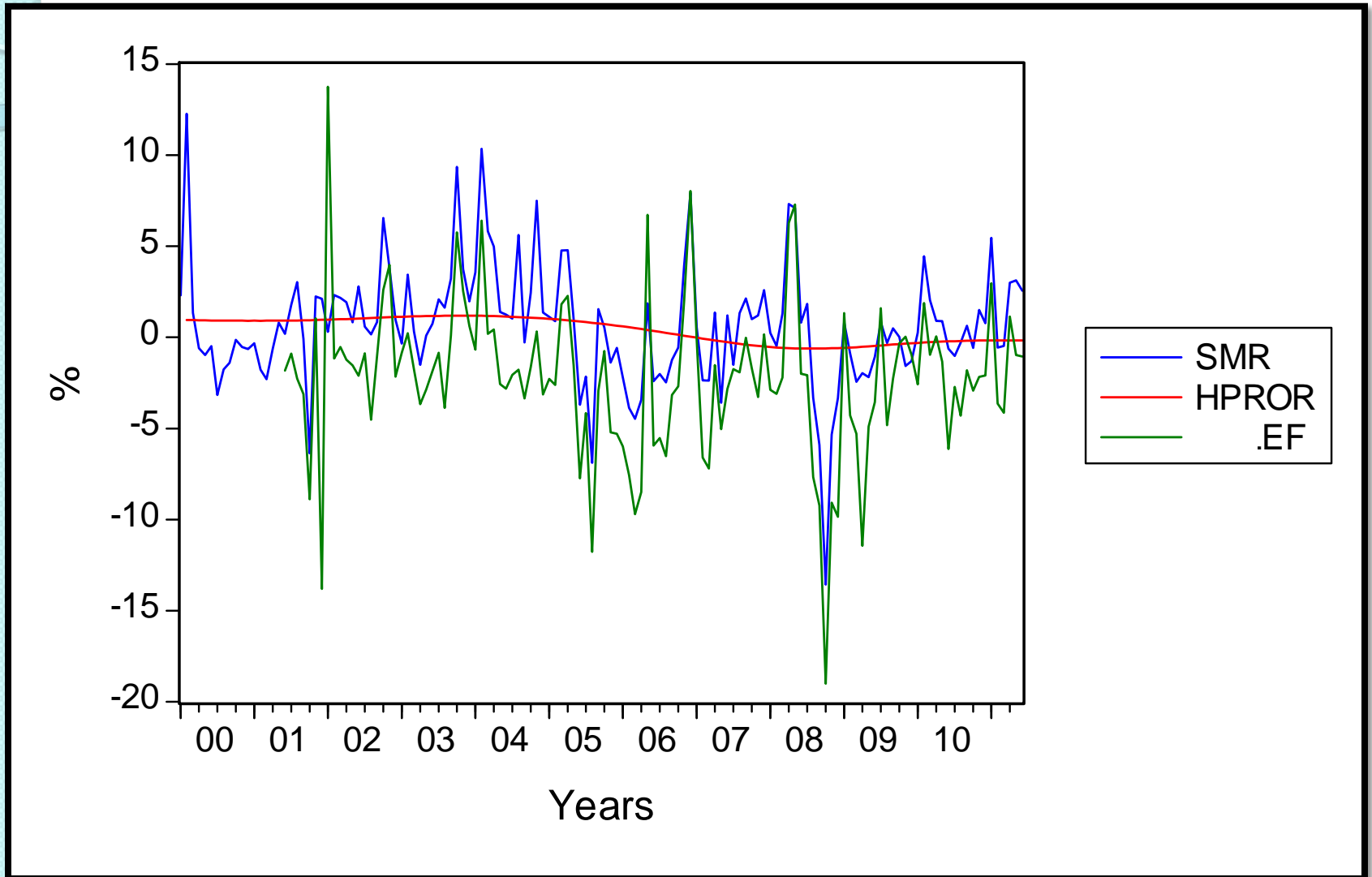




# Stylized Facts – Deposits Interest Rates of Banking Instruments

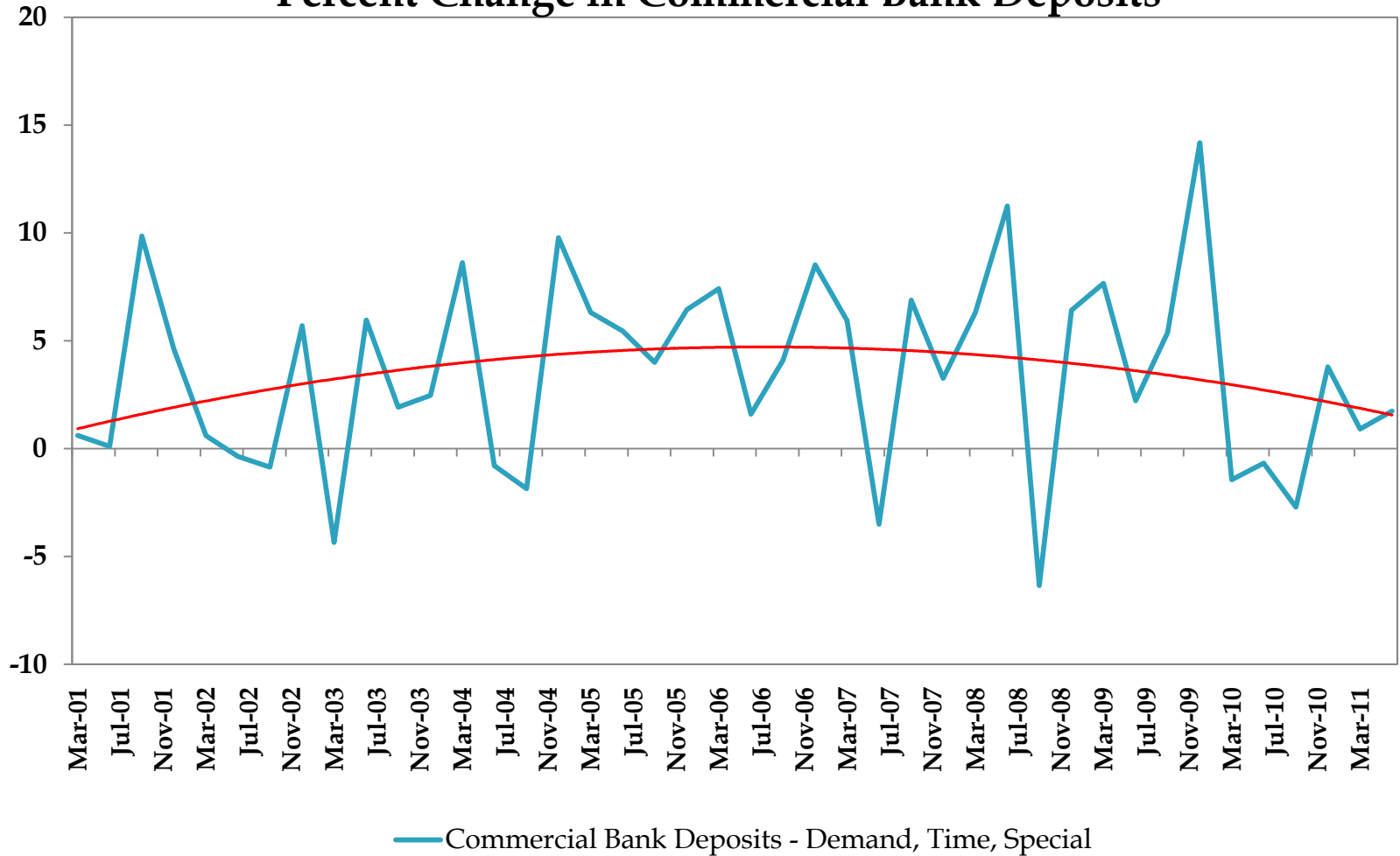


# Stylized Facts – Deposits Interest Rates of Non-Banking Instruments

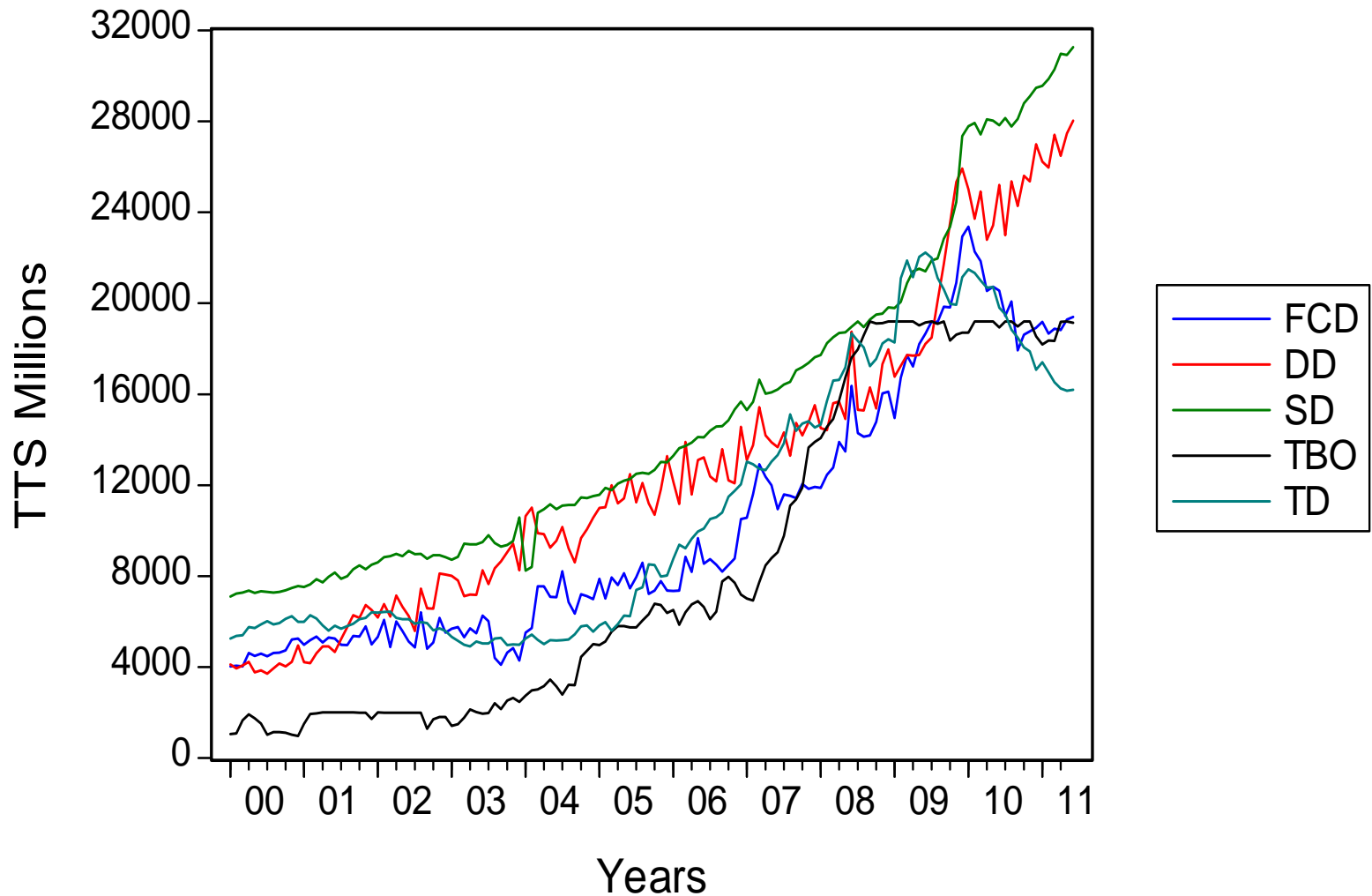


# Stylized Facts – Commercial Bank Deposits of Trinidad and Tobago

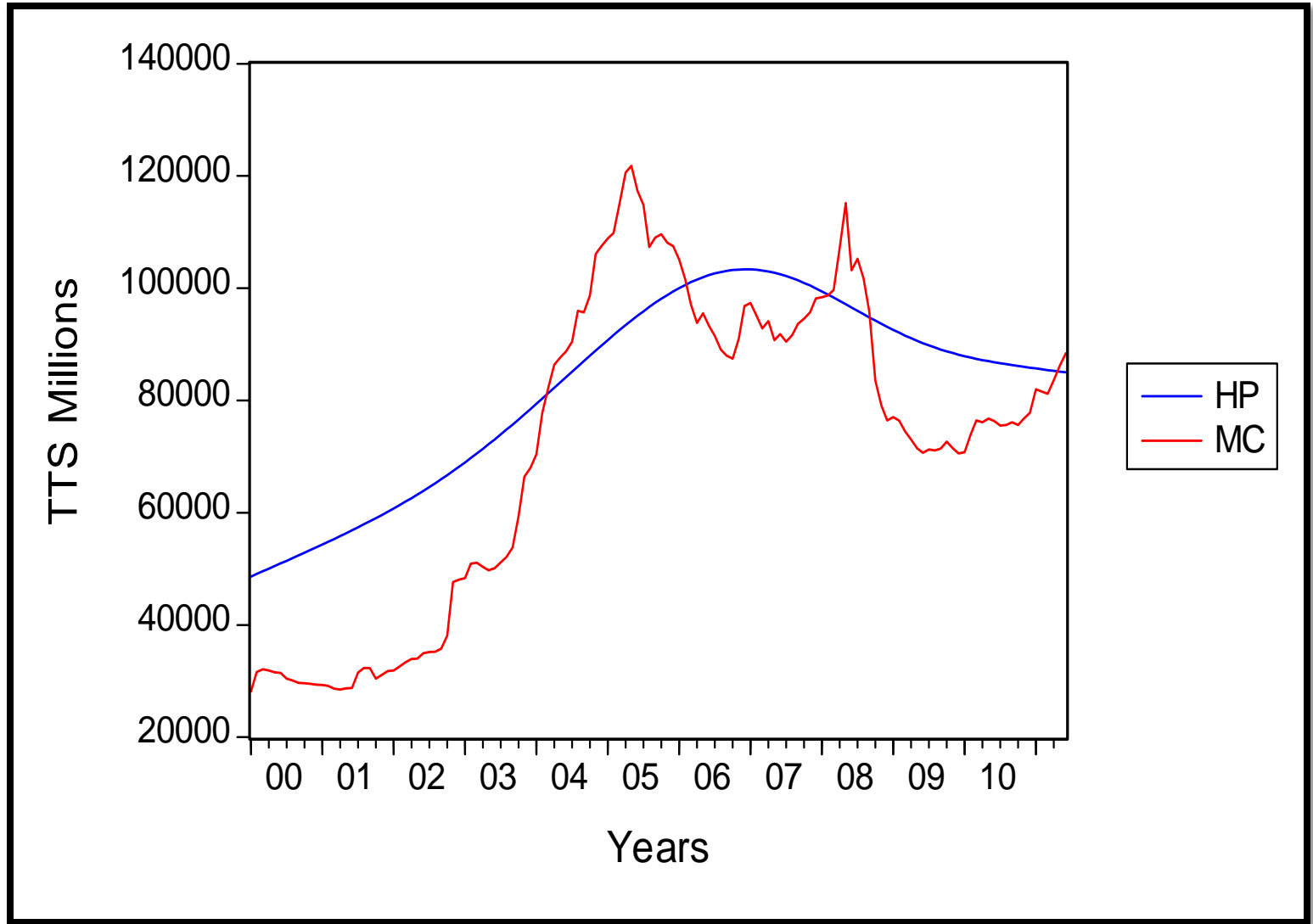
## Percent Change in Commercial Bank Deposits



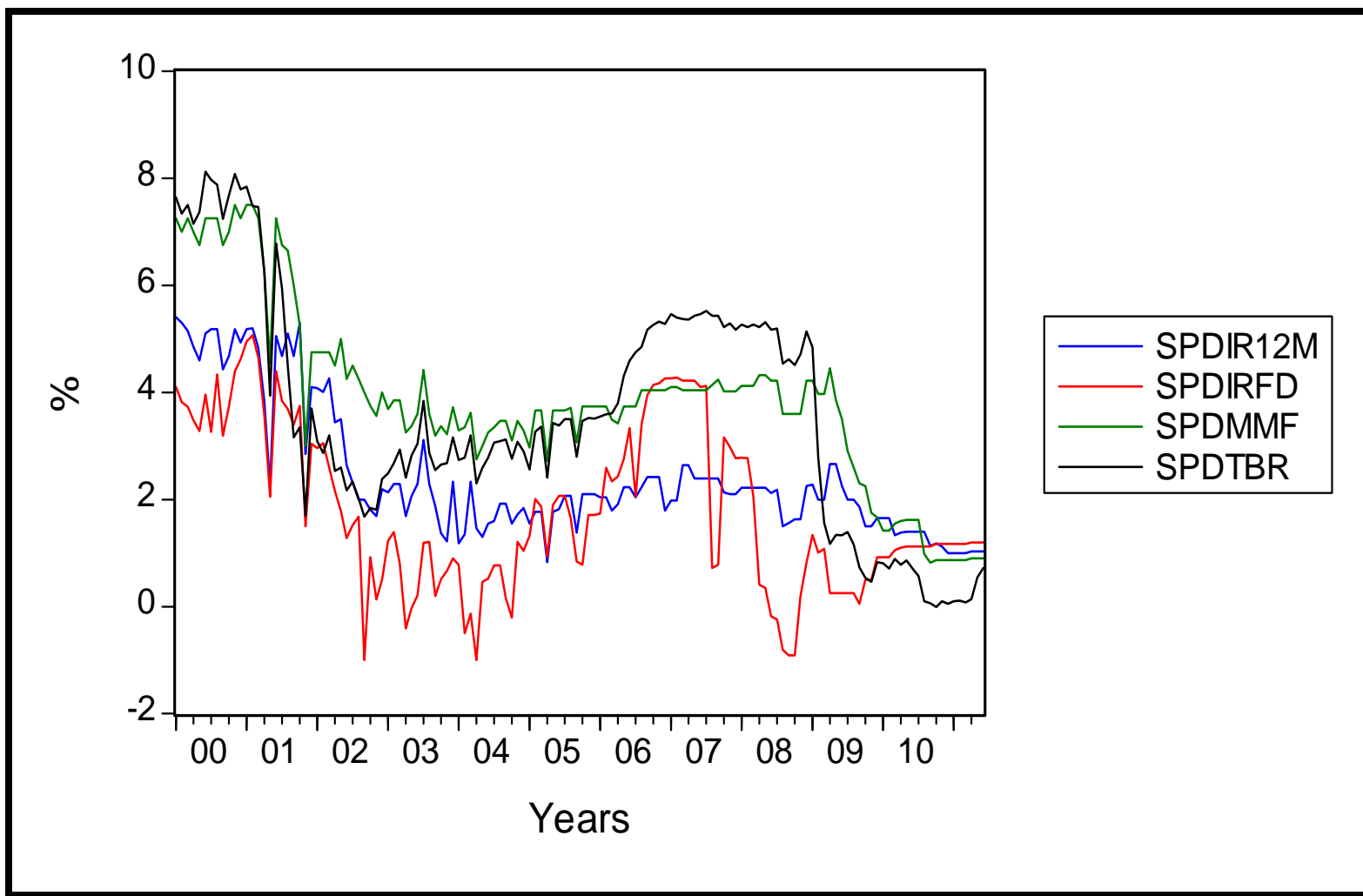
# Stylized Facts- Demand for Assets



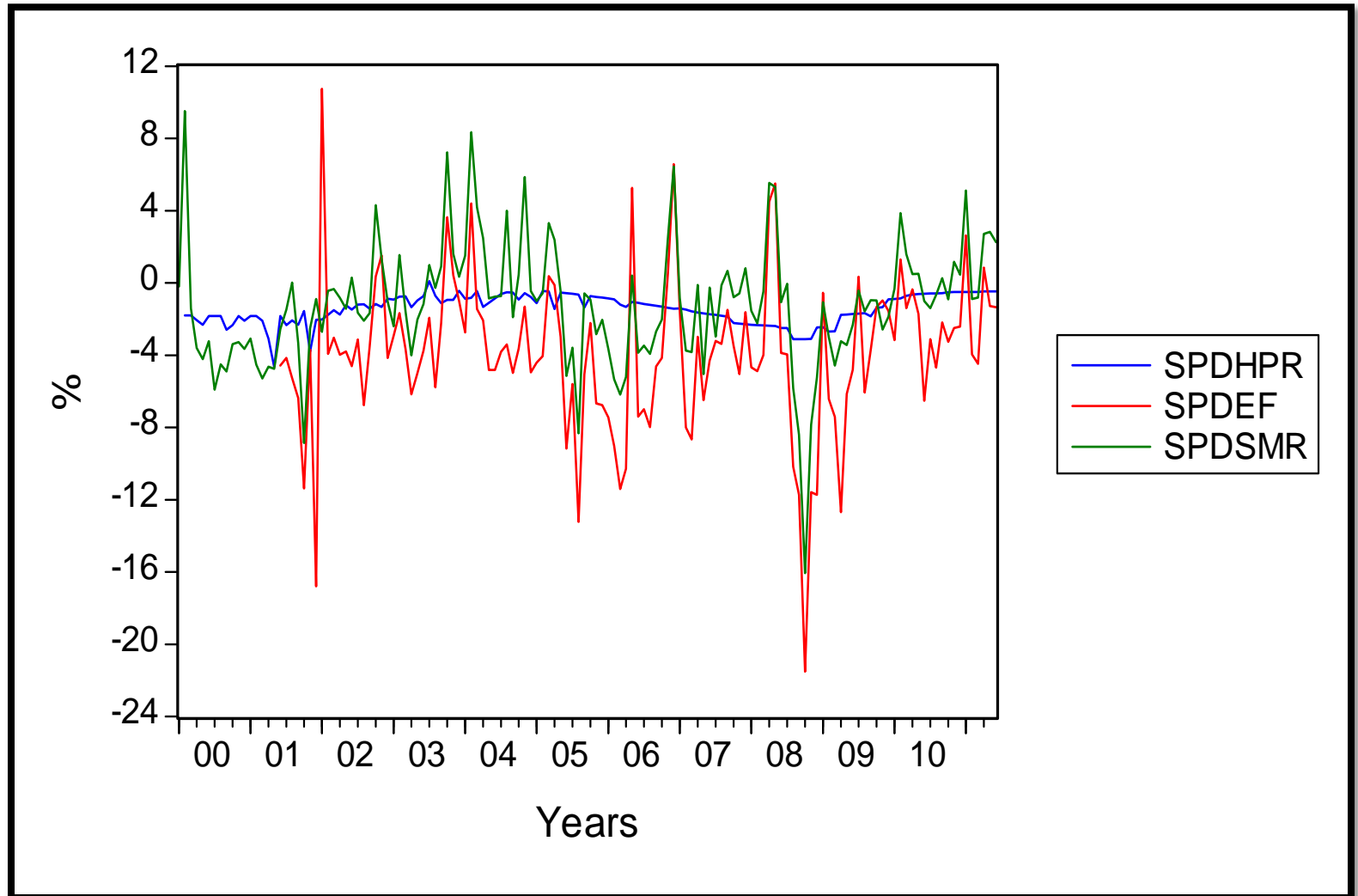
# Stylized Facts- Demand for Assets



# Stylized Facts – Differential of the Interest Rates to the Savings Interest Rate

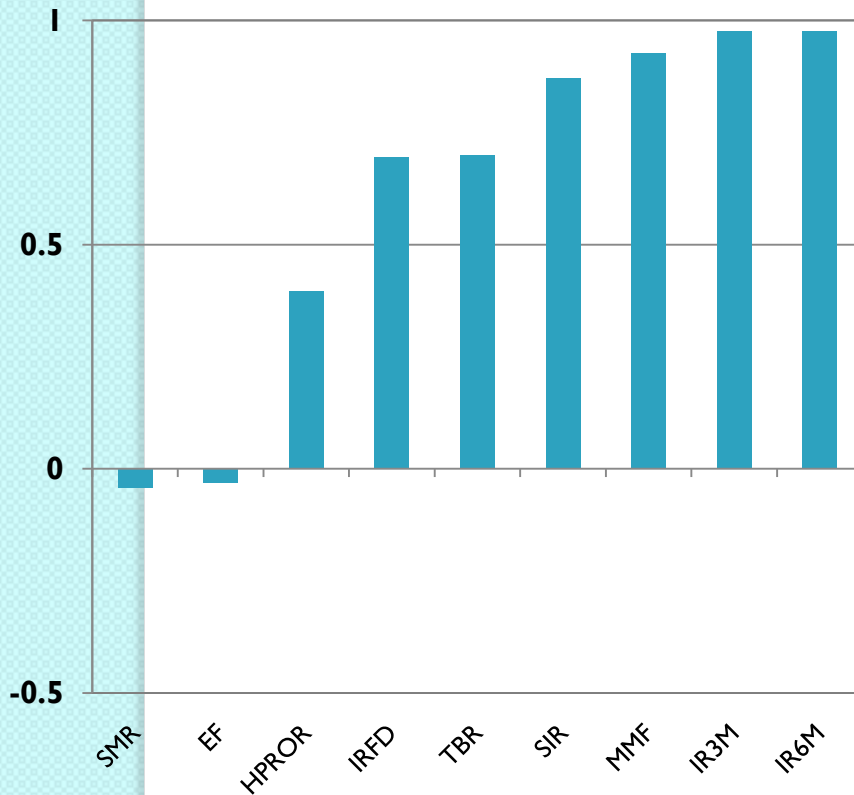


# Stylized Facts – Differential of the Interest Rates to the Savings Interest Rate

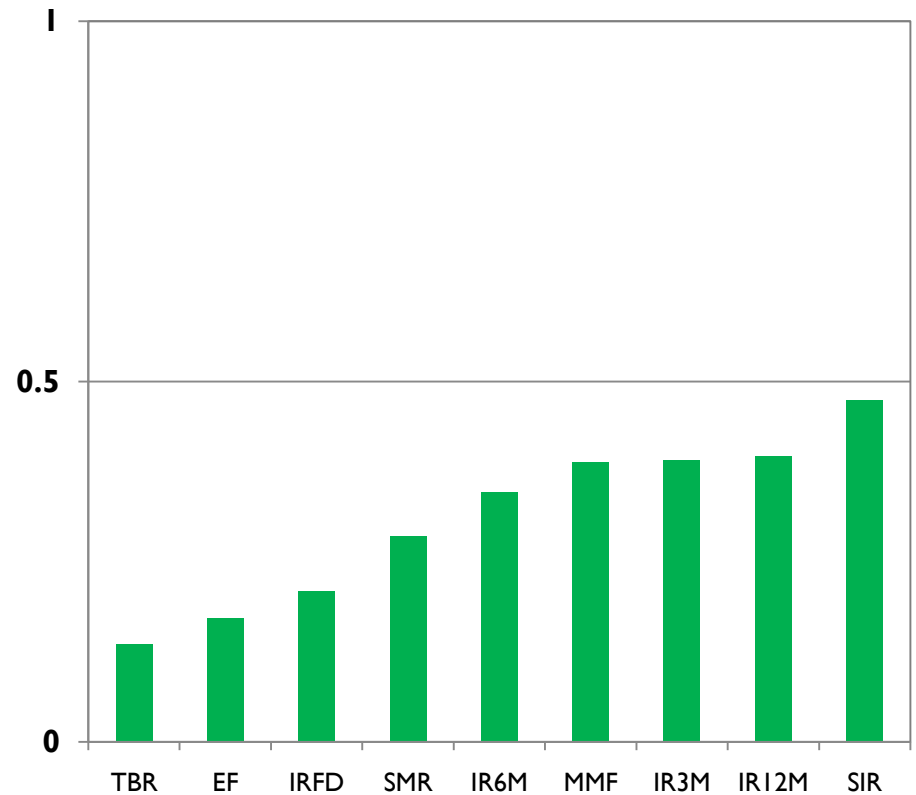


# Stylized Facts- Correlations of Interest Rates

**Correlation Ratios of Saving Instruments Interest Rate with Interest Rate of 12mth Deposits**



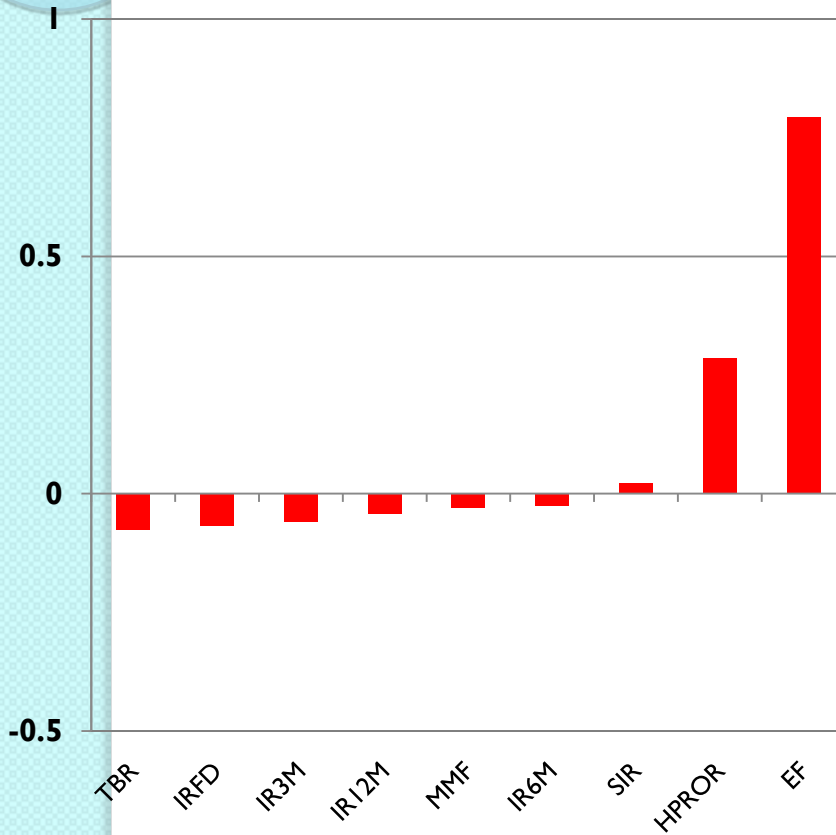
**Correlation Ratios of Saving Instruments Interest Rate with House Prices ROR**



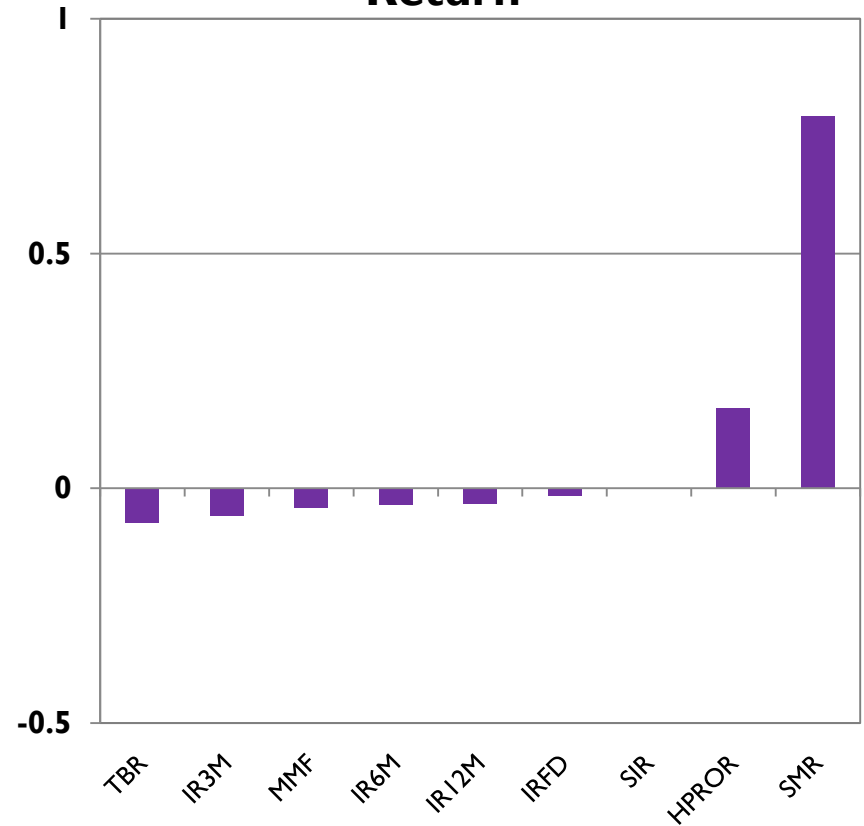


# Stylized Facts- Correlations of Interest Rates

## Correlation Ratios of Saving Instruments Interest Rate with Stock Market Rate of Return

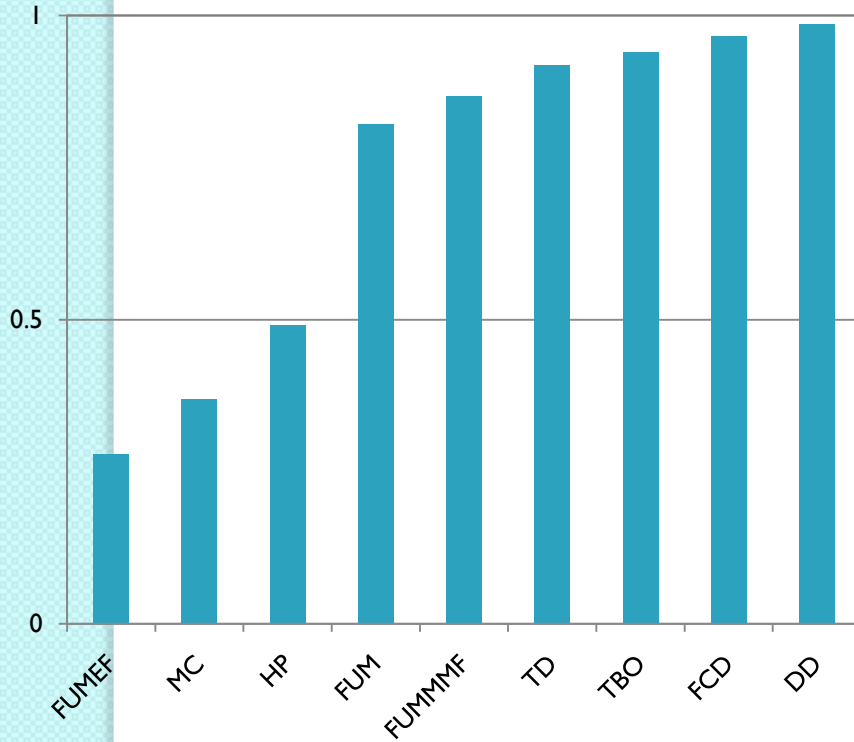


## Correlation Ratios of Saving Instruments Interest Rate with Equity Funds Rate of Return

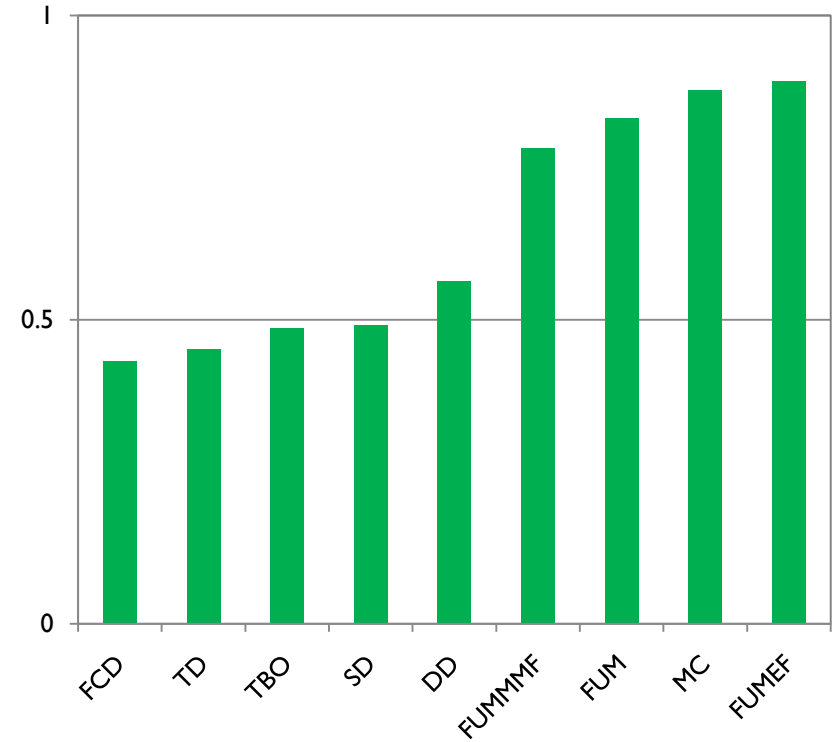


# Stylized Facts- Correlations of Volumes

## Correlation Ratios of Saving Instruments (Volume) with Savings Deposits (TT\$M)

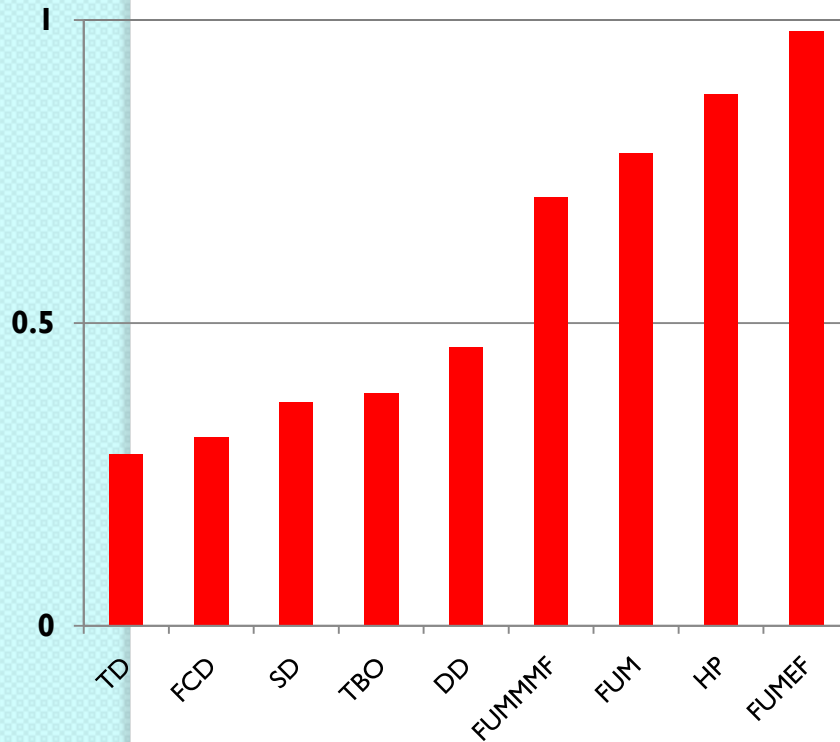


## Correlation Ratios of Saving Instruments (Volume) with House Prices (TT\$M)

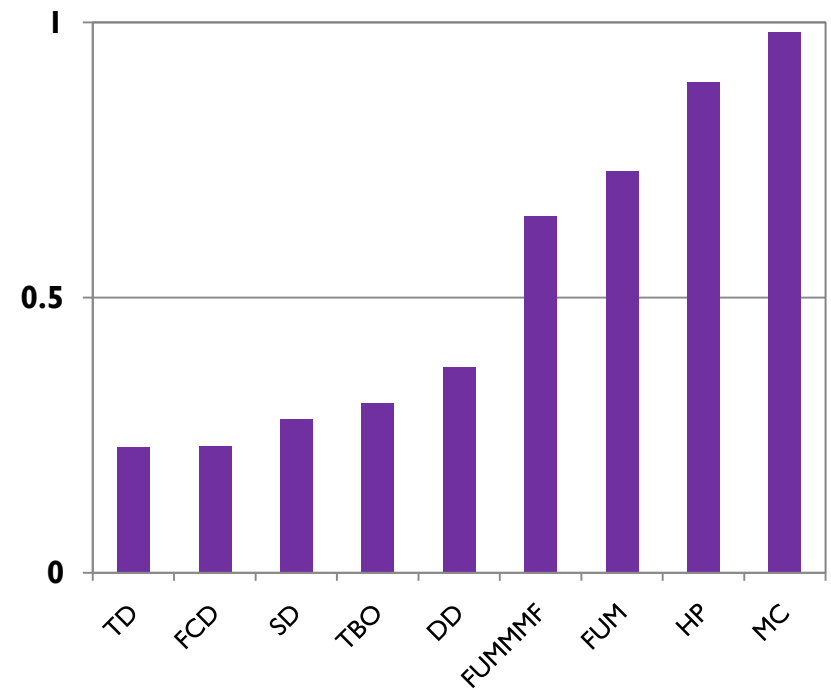


# Stylized Facts- Correlations of Volumes

**Correlation Ratios of Saving Instruments (Volume) with Mkt Cap. of TTSE (TT\$M)**



**Correlation Ratios of Saving Instruments (Volume) with Equity Funds (TT\$M)**



# Implications

- Low interest rates is a significant contributor to the high liquidity problem in TT, because of the savings deposits have become a holding bay for all other saving instruments.
- The Risk Factor associated with a protracted period of low interest rates is considerably high. Investors will be incentivised to take on more risk by investing in riskier assets.



# Implications

- The possibility exist that on the foreign exchange side people are looking outside of TT for higher returns, given the increase the demand for foreign currency.
- Switching costs restricts substitution across assets. This may contribute to the excess liquidity but may also prevent bubbles in the housing market.

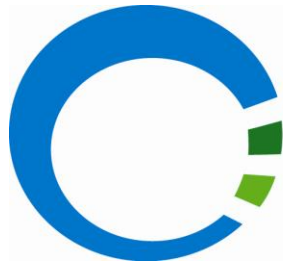


# Further Research

- This is the initial findings of our analysis , we are looking to develop a more complex model of interest rate and demand for assets that can measure more accurately the extent of substitution based on factors such as differentials between rate of return and risk adverseness.
- To do this same study for Barbados and Jamaica



Thank You for your  
attention .



**CARIBBEAN CENTRE** FOR **MONEY & FINANCE**

The University of the West Indies

St. Augustine, Trinidad and Tobago

**Phone:** (868) 645-1174, **Fax:** (868) 645-6017

**E-Mail:** [ccmf@sta.uwi.edu](mailto:ccmf@sta.uwi.edu)

**Website:** [www.ccmfuwi.org](http://www.ccmfuwi.org)