

# **THE DETERMINANTS OF FIRMS' ACTIVITY IN THE PRIMARY CORPORATE BOND MARKET**

**Evidence From Trinidad And Tobago**

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# PRESENTATION OUTLINE

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# INTRODUCTION

# MOTIVATION FOR STUDY

- The most recent global financial crisis demonstrates the need for diversified financial markets particularly deeper and more active corporate bond markets within CARICOM member countries
- The main negative consequences of this crisis in CARICOM countries was an increased fear by banks of moral hazard and an increased fear by potential investors of adverse selection
- Banks implemented stricter lending criteria and were hesitant to provide very long-term loans to corporations
- Investors developed an increased scepticism in the reliability and stability in the regional banking system and yearned for alternative investment instruments to company shares and government bonds

# OBJECTIVES OF STUDY

- **This study seeks to do the following:**
  - Identify the factors that influence private sector firms to issue bonds
  - Identify the factors that influence private sector firms to invest in corporate bonds



**DATA  
&  
METHODOLOGY**

# DATA SOURCES

## Trinidad and Tobago Securities and Exchange Commission (TTSEC)

- **Firms' audited financial statements**
  - Value of Bonds Issued by Firms
  - Values for Firm Specific Characteristics
  - Value of Firms' Corporate Bond Investment
- **List of Registered Bonds**
  - Value of Bonds Issued by Firms
  - Data used to calculate proxies for size of domestic banking sector and size of domestic corporate bond market

## Central Bank of Trinidad and Tobago (CBTT)

- **Annual Economic Survey (Primary Bond Market Activity Table)**
  - Value of Bonds Issued by Firms
  - Data used to calculate proxies for size of domestic banking sector and size of domestic corporate bond market

## Trinidad and Tobago Stock Exchange (TTSE)

- **Trading Summaries**
  - Data used to calculate proxies for size of domestic stock market

# METHODOLOGY

- Firms' Decision to Issue Bonds During the Period 1996 – 2008

- **Statistical Technique:**

- Fractional probit analysis, a non linear model, was used to predict the fractional dependent variable, Bonds, for which values lie between 0 and 1. Standard linear models were not used because they provide predicted values for the dependent variable outside of 0 and 1.

$$\text{Bonds}_{it} = \left( \begin{array}{l} \Psi_{it} + \lambda_1 \text{Tang}_{it} + \lambda_2 \text{Size}_{it} + \lambda_3 \text{Growth}_{it} \\ + \lambda_4 \text{Tobin's Q}_{it} + \lambda_5 \text{ROA}_{it} + \lambda_6 \text{Equity}_{it} \\ + \lambda_7 \text{Bank}_{it} + \lambda_8 \text{ComDebt}_{it} + \lambda_9 \text{YrsStkEx}_{it} \\ + \lambda_{10} \text{Year}_{it} + \lambda_{11} \text{SMkt}_{it} + \lambda_{12} \text{CSize}_{it} \\ + \lambda_{13} \text{PSecMkt}_{it} + \bar{x}_i \xi_i \end{array} \right)$$



# METHODOLOGY

- Firms' Decision to Issue Bonds During the Period 1996 – 2008

- **Dependent Variable:**

- Bonds = Value of Bonds Issued By Firm

- **Independent Variables**

- Tang = Value of Collateralised Assets Owned by Firm
- Size = Firm Size
- Tobin's Q = Firm's Investment Opportunities
- Growth = Firm's Level of Growth
- ROA = Firm's Profitability
- Csize = Size of Corporate Bond Market Relative to Size of Public Debt Market

# METHODOLOGY

- Firms' Decision to Issue Bonds During the Period 1996 – 2008

- Independent Variables

- Equity = Size of Firm's Equity Financing
- Bank = Value of Firm's Bank Financing
- ComDebt = Value of Firm's Commercial Debt
- YrsStkExc = Proxy for Firm's Reputation in the Capital Market
- SMkt = Size of the Local Stock Market
- PSecMkt = Proxy for the Size of the Baking Sector
- Year = Year Dummies

# METHODOLOGY

- Firms' Decision to Invest in Corporate Bonds During the Period 1996 – 2008

- **Statistical Technique:**

- Random effects probit regression analysis, a linear model, was used to predict the dichotomous dependent variable because the categorical dependent variable is assumed to reflect an underlying quantitative variable and the probit response function provides some distinct advantages when handling endogenous explanatory variables.

$$\text{BondPur}_{it} = \left( \begin{array}{l} \tau_0 + \tau_1 \text{Invest}_{it} + \tau_2 \text{PDebt}_{it} + \tau_3 \text{ROA}_{it} \\ + \tau_4 \text{CRATIO}_{it} + \tau_5 \text{CSize}_{it} + \tau_6 \text{BoSize}_{it} \\ + \tau_7 \text{Size}_{it} + \tau_8 \text{TypeofFirm}_{it} + \tau_9 \text{Time}_i \\ + \varepsilon_{it} \end{array} \right)$$

# METHODOLOGY

- Firms' Decision to Invest in Corporate Bonds During the Period 1996 – 2008

- **Dependent Variable:**

- **BondPur** (Dichotomous Variable that Proxies for Corporations' Investment in Bonds; 0 = No Investment in Corporate Bonds and 1 = Investment in Corporate Bonds)

- **Independent Variables:**

- **Invest** (Value of Money Available for Investment)
- **Size** (Firm Size)
- **Pdebt** (Share of Firms' Investment Portfolio Invested in Public Debt)
- **ROA** (Firms' Performance)
- **CRATIO** (Firms' Liquidity)

# METHODOLOGY

- Firms' Decision to Invest in Corporate Bonds During the Period 1996 – 2008
  - Independent Variables
    - **TypeofFirm** (Dichotomous Variable that Proxies for the Type of Firm where 1 = Financial Firms and 0 = Non-Financial Firms)
    - **Csize** (Size of the Corporate Bond Market)
    - **BoSize** (Number of New Corporate Bond Issued)
    - **Year** (Year Dummies )

The background of the slide is a close-up, slightly blurred image of several US dollar bills. The bills are in shades of yellow and green, with the word 'BOND' visible on one of the bills in the lower-left quadrant. The overall texture is that of paper currency.

**DETAILS ABOUT THE  
SAMPLE OF FIRMS  
USED IN STUDY**

# DETAILS ABOUT SAMPLE OF FIRMS USED IN STUDY

Due to unavailability of audited financial statements the sample of Firms was limited to 42 firms


The sample represents 0.14% of the registered business establishments, 49% of the registered reporting issuers and 67% of companies listed on T&T Stock Exchange

Sample consists of firms from the various industry classifications however 59.5% belong to the Finance, Insurance, Real Estate and Business Services Category

50% of the sample are Private Limited Companies while 38% are Public Limited Companies

Sample was found to be vastly different from the population of approx. 11,000 potential bond issuing firms registered at the T&T Ministry of Legal Affairs

Sample was found to be more representative of the population of reporting issuers at the TTSEC.

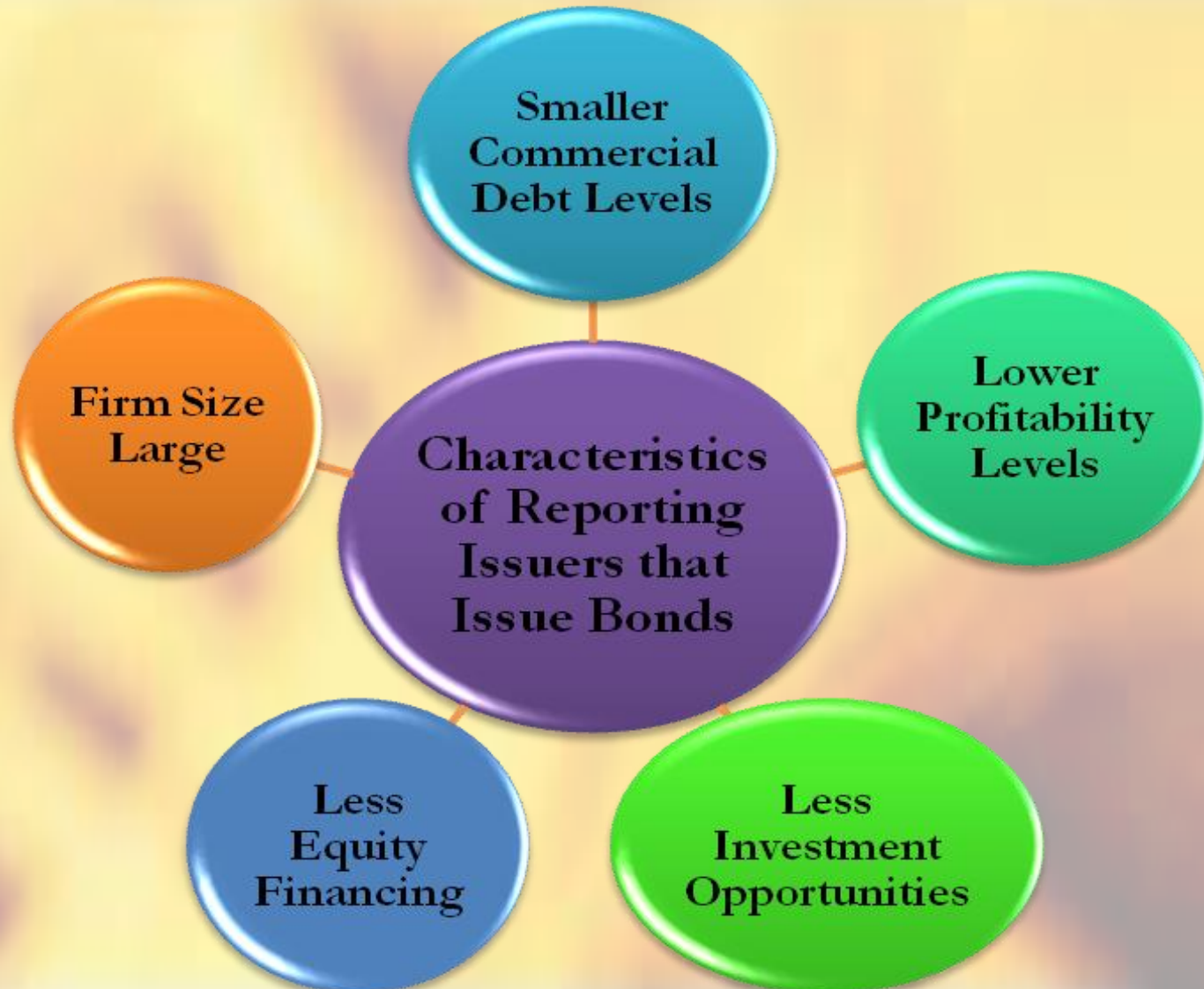
The background of the slide is a close-up, slightly blurred image of a US Treasury bond. The word "BOND" is prominently displayed in a dark, oval-shaped stamp. Other visible text includes "No." and "TREASURY". The overall color palette is warm, dominated by yellow and gold tones.

# RESULTS



# OVERVIEW

## Firms' Decision to Issue Bonds



# OVERVIEW

## Firms' Decision to Issue Bonds

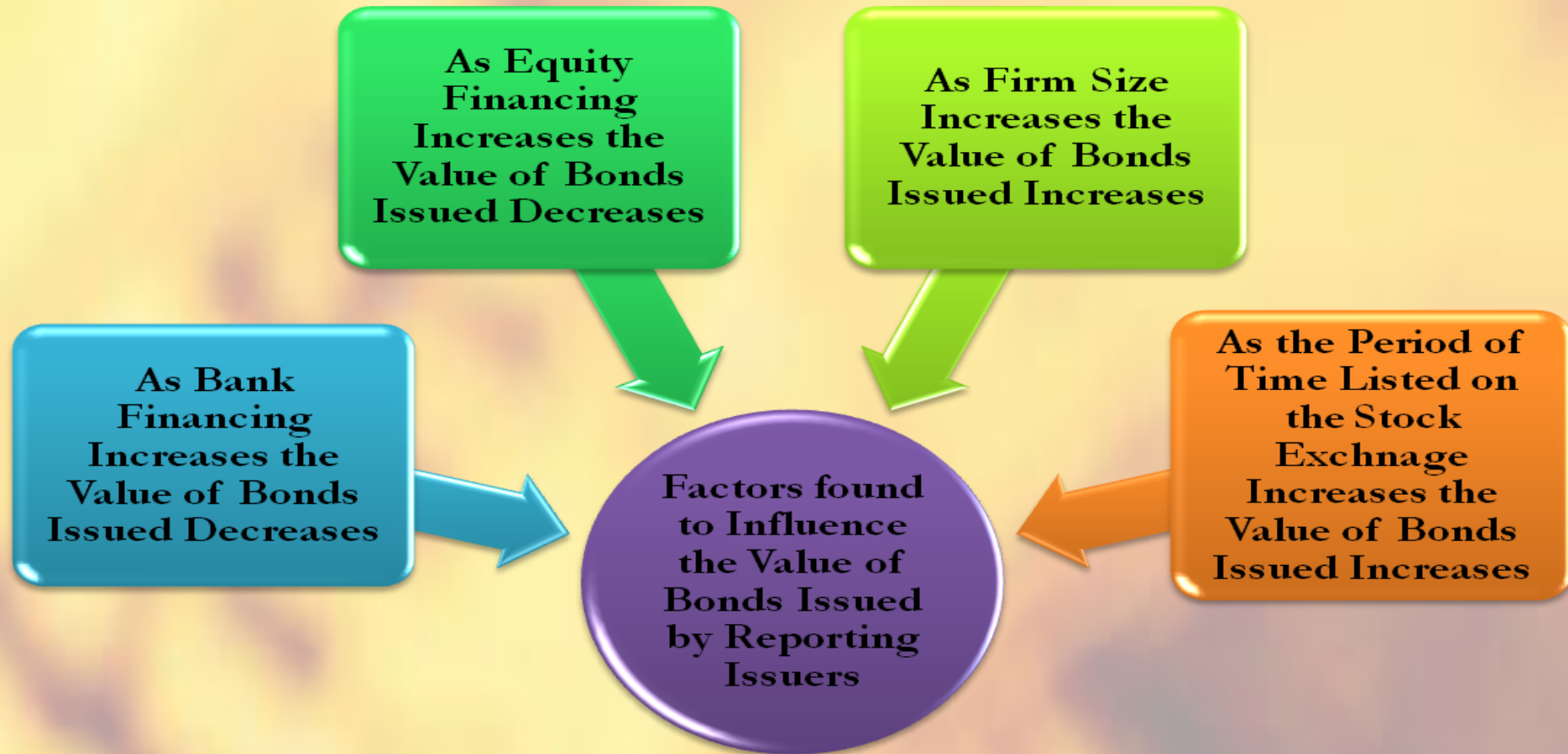
- Bond Issuers and Non-Bond Issuers were found to have similar:
  - Growth rates as measured by the relative change in firms' profits
  - Value of collateralised assets
  - Amounts of Bank Financing and Other Liabilities

# OVERVIEW

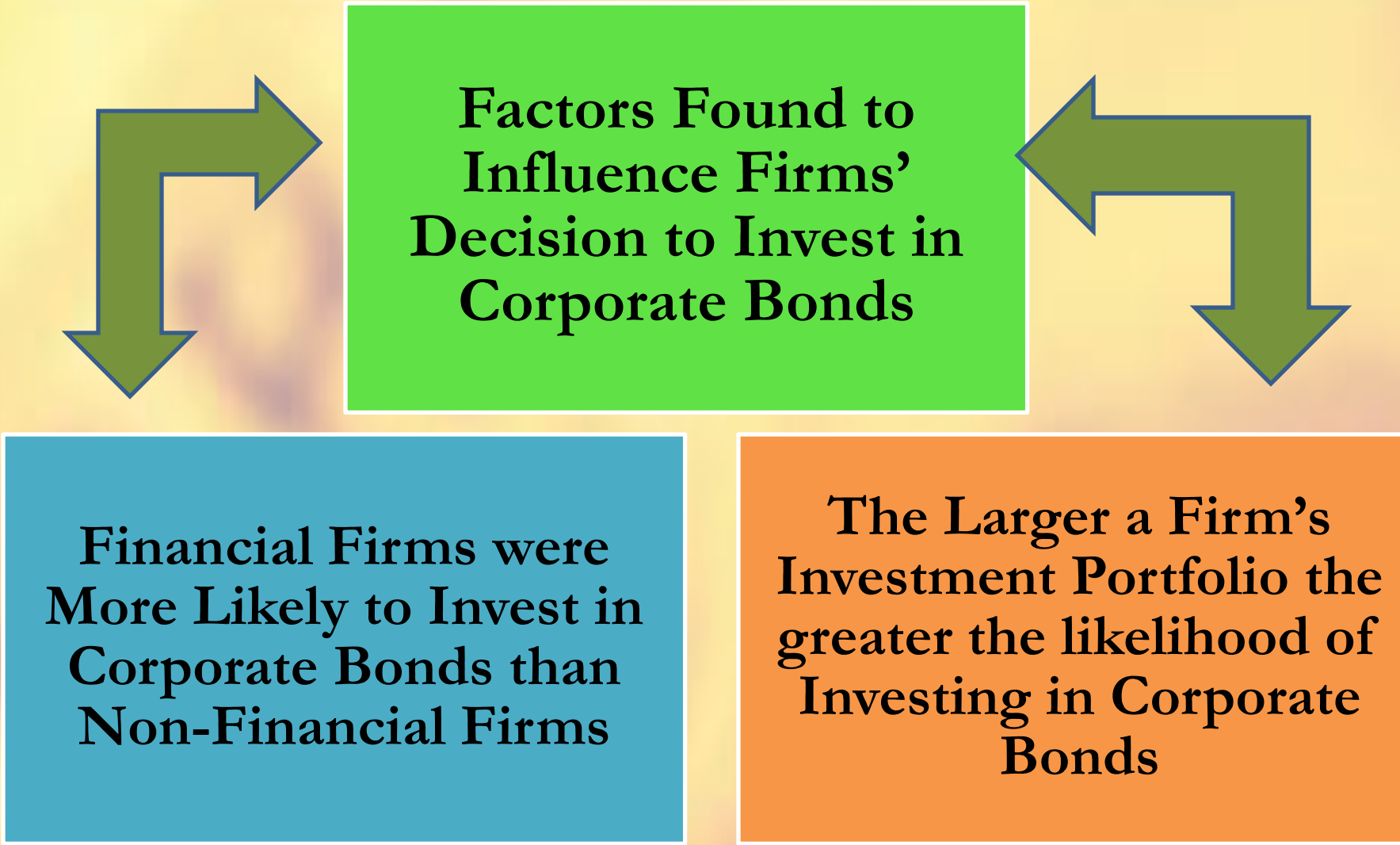
## Firms' Decision to Invest in Corporate Bonds



# FACTORS THAT INFLUENCE THE VALUE OF BONDS ISSUED BY FIRMS



# **FACTORS THAT INFLUENCE FIRMS' DECISION TO INVEST IN CORPORATE BONDS**



**Factors Found to  
Influence Firms'  
Decision to Invest in  
Corporate Bonds**

**Financial Firms were  
More Likely to Invest in  
Corporate Bonds than  
Non-Financial Firms**

**The Larger a Firm's  
Investment Portfolio the  
greater the likelihood of  
Investing in Corporate  
Bonds**



**CONCLUSION**  
**&**  
**POLICY**  
**RECOMMENDATIONS**

# POLICY RECOMMENDATIONS

- Public education to address negative perceptions associated with public disclosure as well as to educate firms about the benefits of corporate bonds as a source of capital as well as an alternative form of investment
- Provision of incentives to underwriters and arrangers to lower their fees as well as to reward them for the quantity of bonds issued
- Reduction of the three to six month period to verify information on the issuer, the issuer's stakeholders, the issuer's business and its environment.
- Enlisting of regulations to prevent commercial banks from improperly pricing loans and thus compressing bank spreads in an attempt to grow their loan portfolios

# POLICY RECOMMENDATIONS

- Provision of incentives to non-financial companies to invest in domestic corporate bonds
- Implementing the following improvements to the domestic secondary market for corporate bonds:
  - An automated quotation system
  - Mandating existing government securities intermediaries/dealers to be market makers for corporate bonds
  - Employment of an effective clearing and settlement system and a central securities depository for corporate bonds
  - Use of self-regulatory mechanisms to regulate trading on the Over the Counter Market



**Your Questions and Comments  
are Warmly Welcomed**

