BSP International Research Conference – Evolving Role and Limits of Monetary Policy

Flattening Yield Curve Amidst Rapid Inflows: The Malaysian Experience

Shakira Teh Sharifuddin. Loke Po Ling
(Bank Negara Malaysia)*

*The views expressed in this presentation and the corresponding paper belong to the authors and do not represent the views of Bank Negara Malaysia
Outline of presentation

1. Background, objective and preview of results
2. Stylized facts
3. Estimation results
4. Policy responses, outlook and conclusion
Introduction, objective and preview of results

**Background**
- Financial markets in emerging economies continue to experience gradual liberalization
- As markets become more integrated, various unique developments in the domestic market are observed
- Yield curve flattening have been observed from time to time in Malaysia

**Objective**
- Conduct thorough analysis on the occurrences of yield curve flattening in Malaysia
- Study the impact of rising foreign participation in Malaysia’s bond market

**Preview of results**
- Episodes of flattening yield curve since 2000 was driven by increase in portfolio flows
- Foreign investors’ presence is statistically significant in contributing to the decline in MGS yields
Theoretical explanations to help explain underlying meaning of various shape of yield curve

**Theoretical explanations**

- Pure expectations, Liquidity premium, Market segmentation
  - **Upward sloping**
    - Expectation for the economy to grow and higher inflation and interest rates
    - Liquidity premium for holding longer-term bonds
  - **Inverted**
    - Expectation of slower economy growth in the future
  - **Humped**
    - Uncertainties over the outlook of the economy
    - ‘Bear flattening’ increase in demand for short-term bonds
    - ‘Bull flattening’ which is due to yields on the longer-end declining at a larger magnitude investors’ preference to the longer-term bonds

**Structural factors**

- Size and level of development of the domestic bond market

**Other reasoning**

- Capital inflows
- Expectations of US or advanced countries interest rates
- Expectations of other EMEs’ interest rates

**External factors**

- Capital inflows
- Expectations of US or advanced countries interest rates
- Expectations of other EMEs’ interest rates
Outline of presentation

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Since early 2000s, flattening yield curve in the ringgit bond market has largely been driven by a marked surge of portfolio inflows.

**MGS Maturity Spread**

1990s to early 2000s: Driven by domestic factors, particularly by prevailing MP stance

Early 2000s to now: External factors and presence of foreign investors

**Portfolio Inflows into the Bond Market vs. Maturity Spread**

Source: EPFR Global, Bank Negara Malaysia

Source: Bank Negara Malaysia

Add. info – yield curve
Broadly, portfolio flows contribute to the flattening of the yield curve in two channels

- The indirect channel - Normally occurs in the early phase of a portfolio surge
- The direct channel – Occurs as the stream of portfolio flows become more sustained

I. Initial stage of inflows
   - Enter short-term (ST) MGS
     - ST yields decline, price increase
     - Domestic investors shift to long-term (LT)
       - Lower liquidity in LT segment
       - LT yields declined at larger magnitude

II. Sustained inflows
   - Demand into MGS become broad-based
   - Inflows into MGS in all tenures
     - Lower liquidity in LT segment
     - Yield curve flattens
Malaysia’s experience with episodes of flattening yield curve has also been observed by other countries.

Of late, this phenomenon has been more prevalent in other emerging markets with a relatively developed bond market such as Korea, Thailand, Australia, New Zealand.

![Maturity Spread for Selected Countries](chart.png)

Shaded areas indicate periods of flattening yield curve

*10-year yields - 1-year yields

Source: Bloomberg
Further discussion on portfolio flows and flattening of the yield curve

- Expectations of ringgit appreciation
- High global liquidity
  - Liquidity conundrum period pre-GFC
  - Monetary easing post-2008
- Basel III implementations

- Ringgit bond market one of the largest bond market in emerging Asia

- Search for yields and/or demand for safe assets
- Domestic bond market is sovereign driven
- MGS remains the largest supply of investible bonds in the country
- Longer-tenured issuances remain smaller relative to shorter or medium-term maturities

- Large domestic bond market among EMEs
- Large presence of institutional investors
- Institutional investors normally adopt a buy-and-hold strategy which tend to result in a more captive market
  - Lowers the liquidity in the domestic bond market
Possible implications arising from flatter yield curve and higher portfolio flows

1. Incomplete monetary policy transmission to selected financial market rates

2. Corporate bond financing affected by trend in yields

3. Rising volatility in the domestic bond market

10-year MGS Yields, IRS and OPR

Volatility of Yields

PDS Yields and PDS Issuances

Source: Bank Negara Malaysia

Shaded areas indicate periods of yield curve flattening

* PDS issuances data is calculated on a 3-month moving average

Source: EPFR Global; Bank Negara Malaysia, author's calculation

Sources:
- 10-year MGS
- 10-year IRS
- OPR
- 3-year AAA
- 3-year AA
- 3-year A
- 4-month rolling std. deviation
- Cumulative portfolio inflows (bond) - (RHS)

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Earlier studies on the relationship between foreign investors and impact on long-term yields

- **Warnock and Warnock (2009)**
  - Monthly flows of 1% of GDP is associated with a 19 basis points reduction in 10-year Treasury yields

- **Balakrishnan et. al. (2011)**
  - Each percentage point increase in non-resident participation in the selected eight countries reduces long-term bond yields by about 5 basis points

- **Peiris (2010)**
  - Each percentage point increase in non-resident participation in the a sample of emerging market countries reduces long-term bond yields by about 5 to 6 basis points
The model

Dependent variable:
- 10-year MGS yields
- 5-year MGS yields
- 10- and 5-year maturity spread

Independent variables:
- Short-term rates: T-bills
- Macro variables: Inflation and growth
- Bond market liquidity
- Sovereign risk
- Financial market volatility
- Foreign investors’ variables:
  - NR holdings (% of total bonds outstanding)
  - NR flows into the ringgit bond market
### Summary Regression Results

**Estimation period: 2002Q1-2014Q1**

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1. Foreign investors’ participation in the MGS market is **statistically** significant in determining MGS yields

**Note**: Adjusted R-squared values indicate the proportion of variance in the dependent variable explained by the model. High values close to 1 indicate a good fit of the model.
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2. Coefficient is larger for 10-year MGS yields than 1-year MGS yields.
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3. Liquidity is statistically significant with 10-year MGS yields
4. Liquidity coefficient is larger than other statistically significant variables, including foreign holdings of MGS.
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4. Short-term rate is **statistically** significant and moves in the **opposite** direction of 10-year MGS yields
Outline of presentation

1. Background, objective and preview of results
2. Stylized facts
3. Estimation results
4. Policy responses, outlook and conclusion
Policy responses thus far and outlook going forward

Monetary transmission

- Financing in Malaysia still relies heavily on bank lending
- Some degree of MP pass through still prevail
- Going forward: When economy becomes more reliant on capital market financing

Volatility

- At present, sufficient demand for ringgit denominated bonds, to absorb any aggressive sell-off activities
- Going forward: To study separately the impact of portfolio outflows on yields

Capital flows management

- Malaysia has been less active relative to other countries in deploying CFMs
- Nonetheless, given certain conditions, certain CFMs may be warranted and justified

Deepening the bond market

- Strong infrastructure and regulatory framework has been put in place
- Room for development in the ringgit bond market, particularly in increasing the number of investible securities

Policy responses from BNM to date

- At present, sufficient demand for ringgit denominated bonds, to absorb any aggressive sell-off activities
- Going forward: To study separately the impact of portfolio outflows on yields

Volatility

- At present, sufficient demand for ringgit denominated bonds, to absorb any aggressive sell-off activities
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Policy responses from BNM to date

- At present, sufficient demand for ringgit denominated bonds, to absorb any aggressive sell-off activities
- Going forward: To study separately the impact of portfolio outflows on yields
Conclusions

1. Since early 2000s, periods of flattening yield curve in Malaysia have mainly been driven by increasing presence of portfolio flows.

2. Decline in long-term yields is further augmented by some structural issues existing in the ringgit bond market, particularly liquidity conditions.

3. Higher presence of foreign investors in the domestic bond market is statistically significant in contributing to the decline in long-term yields.

4. While the flattening of the yield curve appears to impact the effectiveness of monetary transmission, the impact would not be nullified as financing in the economy still depend largely on bank borrowings.

5. Going forward, it would be worthwhile to look into the asymmetric effect of portfolio inflows and outflows on the MGS yields.
Thank you.