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## Business

# Dynamics of Bond Market Integration in ASEAN-5 Economies

by Lee and Armo

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# Overview of Lee and Armo's study

- This paper attempts to analyse the dynamics of bond market integration using ASEAN-5's weekly 2Y and 10Y government bond yields for a period from 1 July 2005 – 26 Dec 2014.
- Results (overall period):
  - Limited integration within ASEAN-5 bond markets
  - Limited integration when ASEAN 5 paired with US government bonds
- Results (sub-periods):
  - Significant increased integration (post GFC)

# Comments & suggestions (Cont')

- Title and the objectives of the study
  - ✓ Objective of the study: This study actually examines cointegration between the ASEAN-5 bond markets as a proxy to measure financial integration.
  - ✓ Title: Dynamics of bond market integration
- Motivation of the study should be made clearer in the Introduction
  - ASEAN's financial system were extremely bank-centric during AFC → a different channel of intermediation for risk diversification is needed to promote financial resilience (Pre- & post-GFC).
- Explained bond market development:
  - ASEAN+3 Bond Market Initiative, Asian Bond Fund 2, Asian Bond Online, etc. (1 page).

# Comments and suggestions (cont')

- Gap of the study is unclear:
- Int. government bond market integration
  - assessment on time varying expected returns using asset pricing model (Ilmanen, 1995; Barr & Priestley, 2004).
  - tested for cointegration on bond index returns, using JJ (Smith, 2002).
  - test time varying nature of European bond market integration (Kim et al., 2006)
    - Strong contemporaneous and dynamic linkages between Euro zone bond market with that of Germany (Kim et al., 2006).
    - Weak linkage for the UK and the relatively new EU of Czech Republic, Hungary and Poland, despite with political integration (Kim et al., 2006).

# Comments & suggestions (Cont')

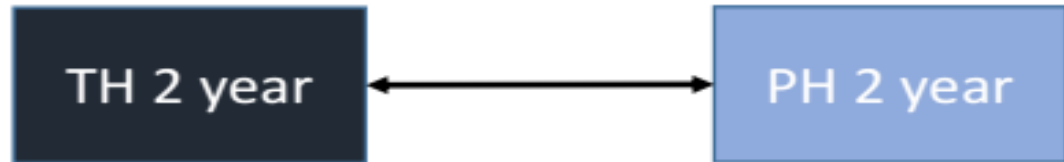
- Justify the method used:
  - JJ method → trace test (whether there exist one or more CV).
  - Suggestions: 1) Engle-Granger bivariate testing for cointegration between pairs of indices? 2) JJ method → max eigenvalue test (test the # CV).
    - Trace stat for 2Y bonds (no CV), 10Y (reject H0: there exists one or more CV)
- ADF unit root test:
  - series in level [cannot reject H0: there is unit root & not stationary]
  - series in difference?
- Model

# Comments & suggestions (Cont')

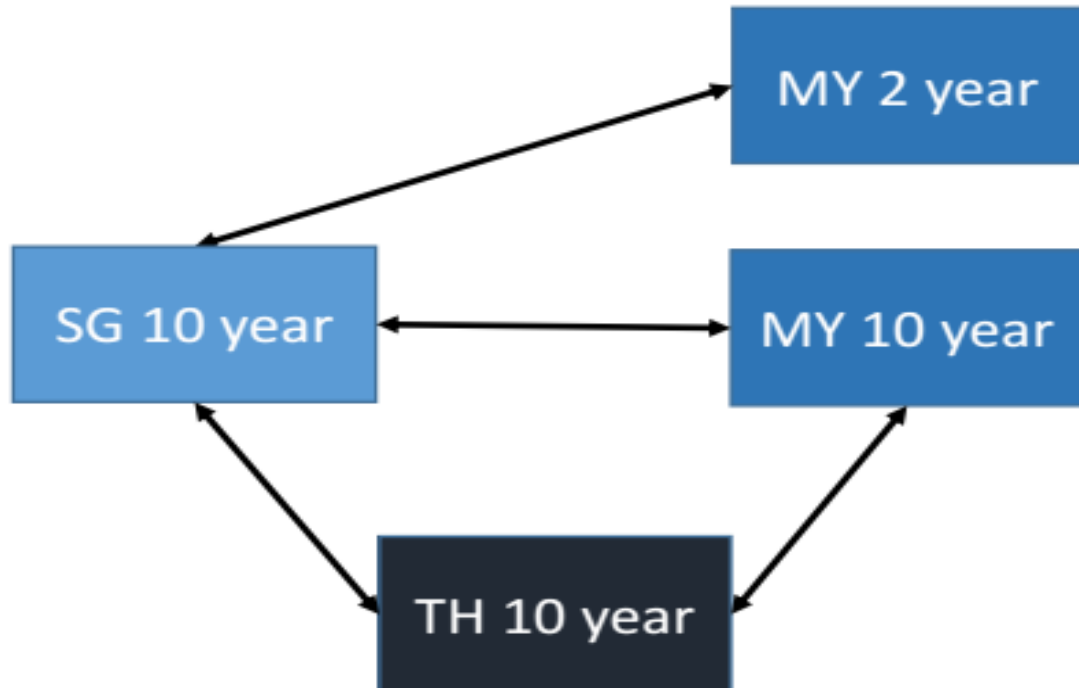
- Figures 2 and 3 (ASEAN-5 government benchmark bond yield for 2Y & 10 Y respectively)
  - The series do not diverge arbitrarily far from each other...  
.common stochastic trends.....convergence [cointegrated market].
    - Investors' standpoint... cointegrated markets will present limited diversification opportunities.
- Explain all tables [descriptive stat] → possible reason for bivariate pairwise cointegration.

**Figure 4: Significant pairwise cointegration in ASEAN-5 bond markets**

**Integration  
between 2 year  
bond markets  
in Thailand  
and  
Philippines**



**Linkages with  
Singapore 10  
year bonds**



# Comments & suggestions (Cont')

- Structural break arising from GFC 2008

2 Y		10Y	
Pre	Post	Pre	Post
1 CV	2 CV	No CV	2 CV

## Suggestions:

- First perform the unit root test with structural break.
- For No CV category → estimate VAR for first difference of the bond yield.
- Variance Decomposition of bond yields to determine how much of the forecast error variance of each variable can be explained by shocks to the other variables.
- Volatility impulse response function of bond yield, tracing the effects of independent shocks on volatility through time.





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# Dynamics of bond market integration between established and accession European Union countries

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# Overview of Kim et al. (2006)'s study

- Examine the dynamic nature of integration of European government bond market to assess time varying level of financial integration.
- Variable: log changes of daily returns on government bond indices (US\$)
- 30 June 1998- 31 Dec 2003 (N=1435)
- Methods:
  - dynamic cointegration
    - JJ: trace stat & max eigenvalue; Engle-Granger bivariate cointegration between pair of indices
  - Haldane and Hall's Kalman filtering method,
  - bivariate EGARCH modelling perspective.



*Thank you*

***Any  
Question?***

