

Bond Market Development in Emerging East Asia

Introduction to AsianBondsOnline and
Basic Characteristics and Risks of Bonds

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Motivation for LCY Bond Market Development

- Prior to 1997-98 East Asian financial crisis, East Asia had underdeveloped bond markets with corporates relying heavily on bank financing.
- The crisis exposed the region to currency and maturity mismatches.
- In response, East Asian governments launched regional initiatives aimed at promoting financial cooperation and stability.

Regional Initiatives

- Asian Bond Market Initiative (ABMI)
 - Promote the issuance of LCY bonds
 - Facilitate the demand for LCY bonds
 - Improve the regulatory framework governing bond markets
 - Improve the related infrastructure for bond markets
- ASEAN+3 Bond Market Forum (ABMF)
 - Fosters standardization of market practices and harmonization of regulations in cross-border bond investment

AsianBondsOnline

- Launched in 2004 as part of ABMI.
- Became part of ABMI's Task Force 2 in 2008.
- A website (<https://asianbondsonline.adb.org>) that provides information on bond markets in emerging East Asian economies—which include ASEAN+3 economies plus Hong Kong, China.

REGIONAL OVERVIEW	Brunei Darussalam	Cambodia	People's Republic of China	Indonesia	Japan	Republic of Korea	Lao People's Democratic Republic	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
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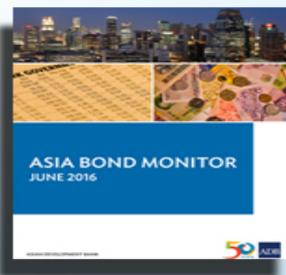
Latest Update: July 25, 2016 11:24 (Manila Time)

ASIA BOND MONITOR

June 2016

Emerging East Asian bond yields continued to fall amid a weak global economy and while the outlook for the region's bond markets is generally benign, a number of risks are emerging, including US Federal Reserve rate hike, broad-based global economic slowdown which could amplify global financial instability, and deflation, says the Asian Development Bank's latest Asian Bond Monitor.

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Asia Bond Monitor
June 2016

Weekly Debt Highlights
(July 18, 2016)

What drives Asian bond yields? Inflation, both CPI and PPI

ASEAN+3 Bond Market Forum Phase 3 Report

What's New

News **ADB Research** **External Research**

- (JP) Japanese Shares Advance as Investors Await BOJ Policy Decision
- (MY) Bank Negara to cut SRR to release more liquidity into banking system?
- (PH) Gov't to push tax, PPP, budget reforms
- (RG) Asian Stocks Rise as Yen Boosts Japan, Investors Await Fed, BOJ
- (KR) S. Korea's terms of trade improve in June

[▶ More News](#)

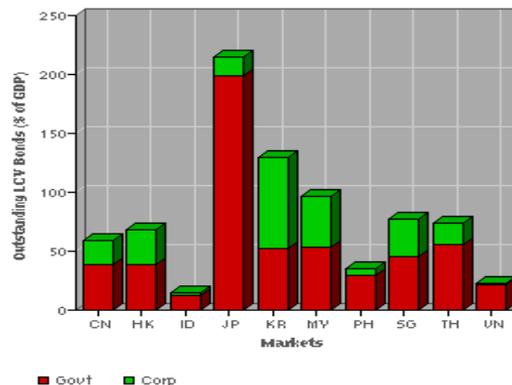
Market Watch

LCY 10 Year Government Bonds	Latest Yield	YTD Change (BP)	MTD Change (BP)
CN	2.810	▼ 5.0	▼ 5.0
HK	1.013	▼ 56.6	▼ 0.9
ID	7.060	▼ 168.5	▼ 39.3
JP	-0.220	▼ 48.5	▼ 0.3
KR	1.415	▼ 67.0	▼ 5.0
MY	3.644	▼ 54.2	▼ 10.0
PH	3.194	▼ 90.6	▼ 102.5
SG	1.758	▼ 84.0	▼ 15.3
TH	2.040	▼ 46.0	▲ 9.0
US	1.566	▼ 70.3	▲ 9.7
VN	7.000	▼ 17.5	▲ 3.2

[▶ More Market Watch Data](#)

Bond Market Indicators

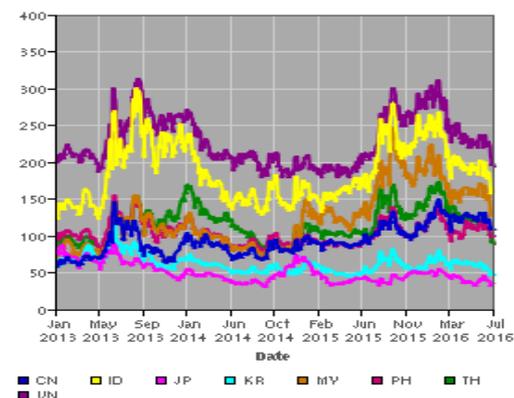
Size and Composition: Size of LCY Bond Market in % GDP (Dec 2015)



[▶ More Indicators](#)

Credit Risk Watch

Weekly Emerging East Asian Credit Default Spread - Senior 5-year



[▶ More Credit Risk Data](#)

Thailand

Market-at-a-Glance

Data

Market Structure

ABMF

Guide To Buying Bonds

Market Summary

News

Currency: Thai Baht (THB)

Market Watch

Close of July 22, 2016

CHANGE FROM

Govt. Bond Yields	Latest Yield	Previous Day	Previous Week	YTD
2 Year	1.517	▲ 0.5	▲ 1.7	▲ 3.0
5 Year	1.719	▼ 0.1	▲ 4.9	▼ 23.5
10 Year	2.040	▲ 1.0	▲ 10.8	▼ 46.0

* Government bond yield changes are expressed in basis points.
>> More details

Currencies	Latest Rate	Previous Day	Previous Week	YTD
THB per USD	34.975	▼ 0.0	▲ 0.0	▲ 2.9
THB per JPY	0.330	▲ 0.3	▲ 1.2	▼ 10.0

* Exchange rate changes are expressed as a percentage change.
>> More details

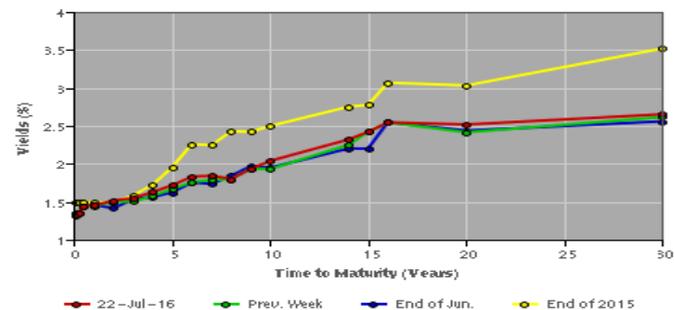
Interest Rates	Latest Rate	Previous Day	Previous Week	YTD
1D BIBOR	1.500	▼ 0.1	0.0	▼ 0.1
3M BIBOR	1.591	▲ 0.0	▲ 0.1	▼ 4.1

* Interest rate changes are expressed in basis point change.
>> More details

Policy Rates

Policy Rates	Latest Rate (11-May-2016)	Previous Rate (23-Mar-2016)	YTD Rate
1-day Repurchase Rate	1.500	0.0	0.0

LCY GOVERNMENT BOND YIELD MOVEMENTS



NEWS HIGHLIGHTS

- Thailand to implement new trade tactic
- Thai c.bank chief warns of heightened FX volatility
- Brexit, yuan, referendum to take toll on Thai exports
- Thailand Future Fund gets B10bn start
- Consumer confidence slips for sixth straight

► [Read full index for News and Commentary](#)

BOND ISSUANCES

- Debt Securities Auction Results: Central Bank Bonds

► [Read full index for Bond Issuances](#)

Thailand >> Data

Market Watch

Market Watch and Major Regional Movers display comprehensive comparable data on local and foreign benchmark bond issues, currency and interest rates.

	Start Date	Data Frequency	Latest Date Available
Government Bond Yield Curves for Selected Periods	-	daily	22-Jul-2016
Policy Rate and Inflation Trends	-	daily	22-Jul-2016
Money Market Interest Rates	-	daily	22-Jul-2016
Currency Exchange Rates	-	daily	22-Jul-2016

Bond Market Indicators

Asia Bond Indicators contain key economic and financial data pertinent to the bond markets of ASEAN + 3 economies. For ease of navigation, we have conveniently divided the list of indicators into Size and Composition Indicators and Liquidity Indicators.

Size and Composition	Start Date	Data Frequency	Latest Date Available
Size of LCY Bond Market	Mar 1995	quarterly/annual	Mar 2016
Size of LCY Bond Market in % of GDP	Mar 1995	quarterly/annual	Mar 2016
Monthly Bonds Outstanding in USD	Jan 2000	monthly	Mar 2016
FCY Bonds Outstanding	Mar 2004	quarterly	Dec 2015
Total Bills-to-Bonds Ratio	Mar 1995	quarterly	Mar 2016
Issuance Volume of LCY Bond Market	Mar 1995	quarterly	Mar 2016
Breakdown of LCY Government Bond Market Issuance	Mar 1995	quarterly	Mar 2016

G3 Currency Bond Issuance	Mar 2000	quarterly	Jun 2016
Government Securities Maturity Profile - LCY	Mar 2006	quarterly	Mar 2016
Corporate Securities Maturity Profile - LCY	Mar 2004	quarterly	Dec 2015
Investor Profile - Government Bonds	Dec 2007	quarterly	Mar 2016
Foreign Holdings in LCY Government Bonds	Mar 2003	quarterly	Mar 2016
Market Liquidity	Start Date	Data Frequency	Latest Date Available
Trading Volume	Mar 2001	quarterly	Mar 2016
Bonds Turnover Ratio	Mar 2001	quarterly	Mar 2016
Yields Returns and Volatility	Start Date	Data Frequency	Latest Date Available
Interest Rate Spread - 2yrs vs 10yrs - LCY Bond	02-Jan-2006	daily	22-Jul-2016
Yield Volatility - 10yr LCY Bonds	30-Jan-2006	daily	22-Jul-2016
HSBC Asian LCY Bond Returns Index	Dec 2000	monthly	Jul 2014
iBoxx ABF Index Family	31-Dec-2000	daily	22-Jul-2016
Liquidity Survey	Start Date	Data Frequency	Latest Date Available
Government Bond Market Structural Issues	2007	annual	2015
Corporate Bond Market Structural Issues	2007	annual	2015

Credit Risk Watch

Credit Risk Watch presents relevant and timely market data and stylized statistics on the current global financial turmoil. This section provides a comprehensive view of the growing credit risk and volatility issues, that affect Asian financial markets.

Government Credit Indicators	Start Date	Data Frequency	Latest Date Available
Financial Stability and Credit Indicators	2006	monthly/quarterly/annual	2015
Sovereign Credit Ratings	Start Date	Data Frequency	Latest Date Available
Long Term Local and Foreign Currency Rating	1989	annual	2016

Thailand

Thailand >> Market Structure >> Overview

► Overview

Overview

[Instruments](#)

[Participants](#)

[Platforms](#)

[Rules And Regulations](#)

[Buying And Selling Bonds](#)

[Policy Initiatives And Reforms](#)

Thailand's bond market has developed significantly since the 1997/98 Asian financial crisis, with increased bond issuance and an actively-traded local market.

The Ministry of Finance (MOF) has stepped up issuance of government bonds for its financing requirements and to build a reliable yield curve in support of market-risk pricing. Government bonds still dominate the market, making up about 80% of all bonds issued. With the introduction of regulations governing corporate bond issuance, a variety of issuers have entered the market, including multinationals, supranationals, and local companies. Both government and corporate bonds are available with tax waivers to foreign investors.

The Bank of Thailand (BOT) uses inflation targeting to drive monetary policy. On 17 January 2007, the Monetary Policy Committee (MPC) set the 1-day repurchase rate as the new key policy rate. Previously, the 14-day repurchase rate was used in open market operations as a means to control inflation and support long-term growth. A combination of monetary instruments—the repurchase markets, BOT bond issuance, and foreign exchange swaps—is used to sterilize liquidity surpluses. Bond trading is conducted either over-the-counter (OTC) or via the Bond Electronic Exchange (BEX), which was established by the Stock Exchange of Thailand (SET) in November 2003. All OTC trades are reported to the Thai Bond Market Association (ThaiBMA) for posting.

Since the late 1990s, both government and corporate issuers have used bonds to raise capital. However, the issues are generally straight fixed-rate or floating-rate notes. The structured bond market is still in the early stages of development. Structured bonds, which are classified into structured notes and securitization bonds, were introduced in Thailand between 1993 and 1998 through transactions involving automobile and export receivables. In 2003, Dhanarak Asset Development Company Limited (DAD) issued the largest program of securitization bonds in Thailand for a government project. DAD's planned THB24 billion three-year securitization program was issued in seven tranches. Including DAD's securitization program, 21 securitization bonds were issued and traded in the secondary market with the issue size ranging from THB6 billion to THB77 billion.

Related Resources:

- [Bond Market Overview published by the Thai Bond Market Association](#)
- [Bank of Thailand \(BOT\)—Monetary Instruments](#)
- [The Structured Bond Market in Thailand](#)
- [Dhanarak Asset Development Company Limited \(DAD\) SPV Company Limited](#)

Thailand

Thailand >> [Market Summary](#)

Market Summary



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[Mar 2016](#)

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[Mar 2014](#)

Yield Movements

Between 1 March and 15 May, Thai local currency (LCY) government bond yields fell for all tenors. Yields for tenors of between 1 month and 1 year declined 4–6 basis points (bps). Yields for tenors of between 2 years and 7 years fell 3–19 bps. Yields for tenors of between 8 years and 30 years fell 24–66 bps. The fall in yields was due to excess liquidity in the market driving up demand for local government bonds. Demand from both domestic and foreign investors rose amid expectations of a more gradual policy rate increase by the United States Federal Reserve and the appreciation of the Thai baht.

Size and Composition

The LCY bond market in Thailand expanded 1.9% quarter-on-quarter (q-o-q) to THB10,205 billion (USD291 billion) at the end of March. On a year-on-year (y-o-y) basis, the LCY bond market rose 9.6%. Government bonds outstanding amounted to THB7,607 billion, while corporate bonds summed to THB2,598 billion. LCY government bonds outstanding increased 1.5% q-o-q to THB7,607 billion at the end of March as both central government bonds and central bank bonds posted q-o-q increases. Meanwhile, outstanding state-owned enterprise and other bonds declined 1.1% q-o-q. Total outstanding LCY corporate bonds rose 3.2% q-o-q to THB2,598 billion at the end of March.

Policy, Institutional, and Regulatory Developments

In March, the Securities and Exchange Commission, Thailand (SEC) and the Association of Investment Management Companies (AIMC) announced the preparation of the Thailand Institutional Investor Code. Through the code, the SEC and AIMC aim to promote responsible investment among institutional investors through the establishment of policies based on corporate governance principles. The code will also provide guidelines for institutional investors in monitoring the operations of the companies they have invested in to protect the interest of their clients and the investment management industry as a whole.

Sources of Corporate Financing

- Internal sources
 - Retained earnings

- External sources
 - Equity financing
 - Debt financing
 - Loans
 - Bonds

Stock versus Bond

- Buying a share of stock entitles the investor ownership in the company and dividends declared and paid by the company.
- Buying a bond entitles the investor only the interest and principal on the bond, and no ownership in the company.

Features of a Bond

- **Coupon rate** – the interest rate on a bond which is a percentage of the bond's face value
 - Fixed-coupon
 - Floating-coupon
 - Zero coupon
- **Face value (par value)** –value of the bond at maturity
- **Issuer** – the entity that's obligated to pay interest and principal on the bond it issues
- **Maturity date** – the date on which the bond will be repaid
- **Yield to Maturity** – the return on investment the investor gets upon holding the bond to maturity

Types of Bond

- **Government Bonds**
 - Central government bonds
 - Central bank bonds
 - Municipal bonds
- **Corporate Bonds**
- **State-owned Enterprise Bonds**

Table 1: Size and Composition of the Local Currency Bond Market in Thailand

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2015		Q4 2015		Q1 2016		Q1 2015		Q1 2016	
	THB	USD	THB	USD	THB	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	9,314	286	10,012	278	10,205	291	0.6	1.7	1.9	9.6
Government	7,079	218	7,494	208	7,607	217	1.9	0.7	1.5	7.5
Government Bonds and Treasury Bills	3,578	110	3,888	108	3,964	113	4.8	3.4	1.9	10.8
Central Bank Bonds	2,682	82	2,823	78	2,869	82	(2.2)	(4.9)	1.6	7.0
State-Owned Enterprise and Other Bonds	819	25	782	22	774	22	3.2	9.2	(1.1)	(5.5)
Corporate	2,235	69	2,517	70	2,598	74	(3.2)	5.1	3.2	16.3

() = negative, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth quarter, THB = Thai baht, USD = United States dollar, y-o-y = year-on-year.

Notes:

1. Calculated using data from national sources.
2. Bloomberg end-of-period LCY-USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.

Sources: Bank of Thailand and Bloomberg LP.

Bond by Currency Choice

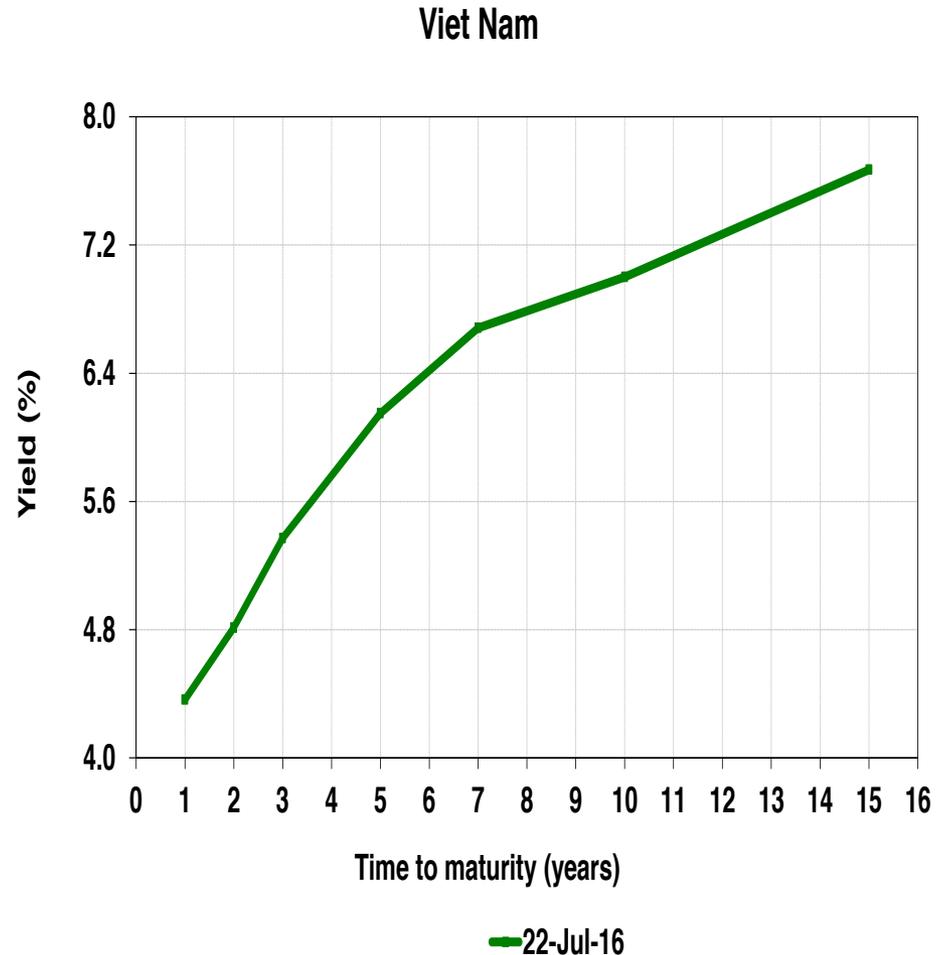
- **Local currency (LCY) Bonds**
 - Bonds denominated in local currency
 - Ex. Philippine peso-denominated bonds in the Philippines, Thai baht-denominated bonds in Thailand, etc.)
- **Foreign currency (FCY) Bonds**
 - Non-LCY bonds
 - Ex. G3 currency bonds (bonds denominated in G3 currencies--US dollar, euro, and Japanese yen) issued by emerging East Asian governments and corporates

Yield Curve

- A graph that plots the relationship of yields and maturities for the same type of bond at a given time
- Helps determine investor expectations for future market conditions, with the slope of the curve providing clues on the direction of future interest rates
- Types:
 - Normal yield curve
 - Inverted yield curve
 - Flat yield curve

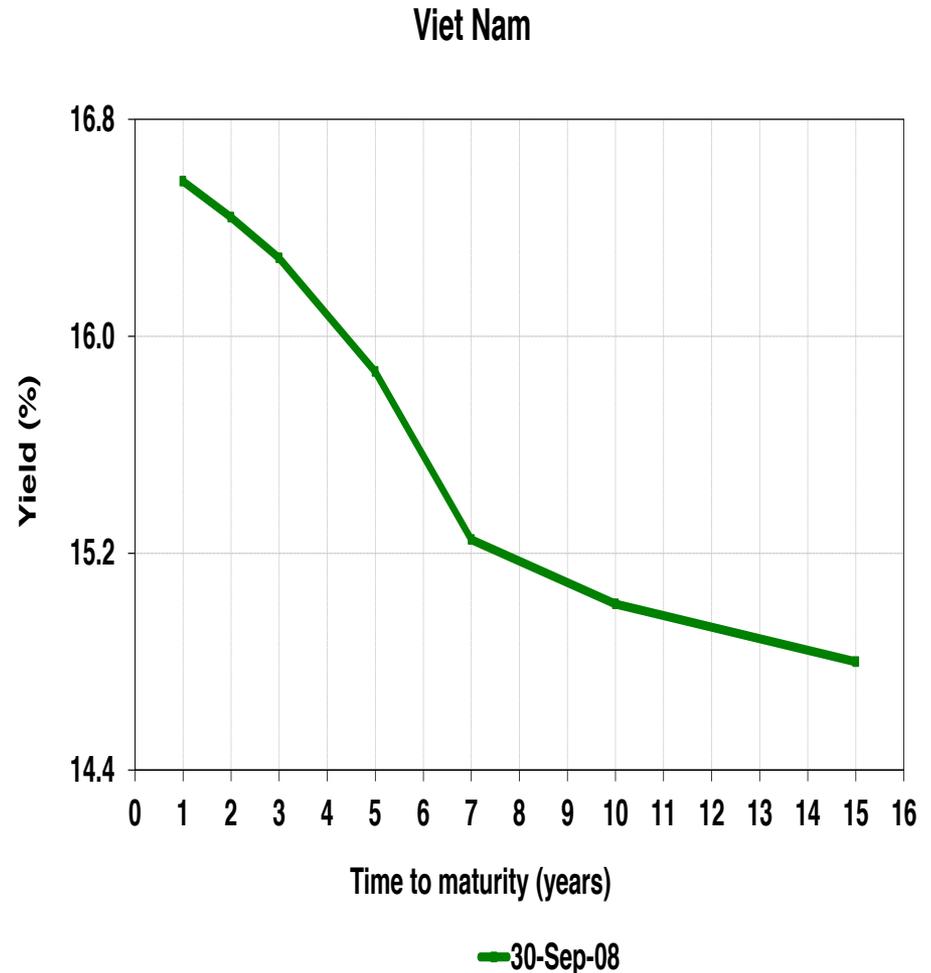
Normal Yield Curve

- Upward-sloping shape
 - Short-term yields are less than long-term yields
 - Yields rise as maturities lengthen
- Investors expect the economy to grow in the future, and stronger growth leads to higher inflation and higher interest rates



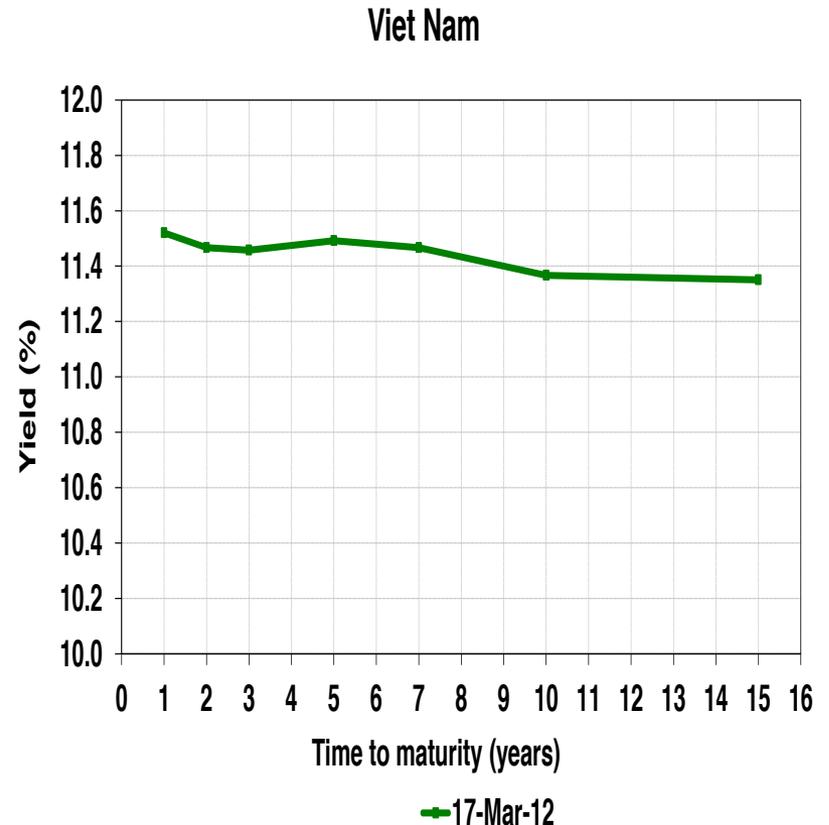
Inverted Yield Curve

- Downward-sloping shape
 - Short-term yields are higher than long-term yields
 - Yields decrease as maturities lengthen
- Investors expect the economy to slow down in the future, and slower growth leads to lower inflation and lower interest rates



Flat Yield Curve

- Horizontal shape; yields are almost the same across maturities
- Market sending mixed signals as regards yield movements in the short-term and/or long-term period(s)



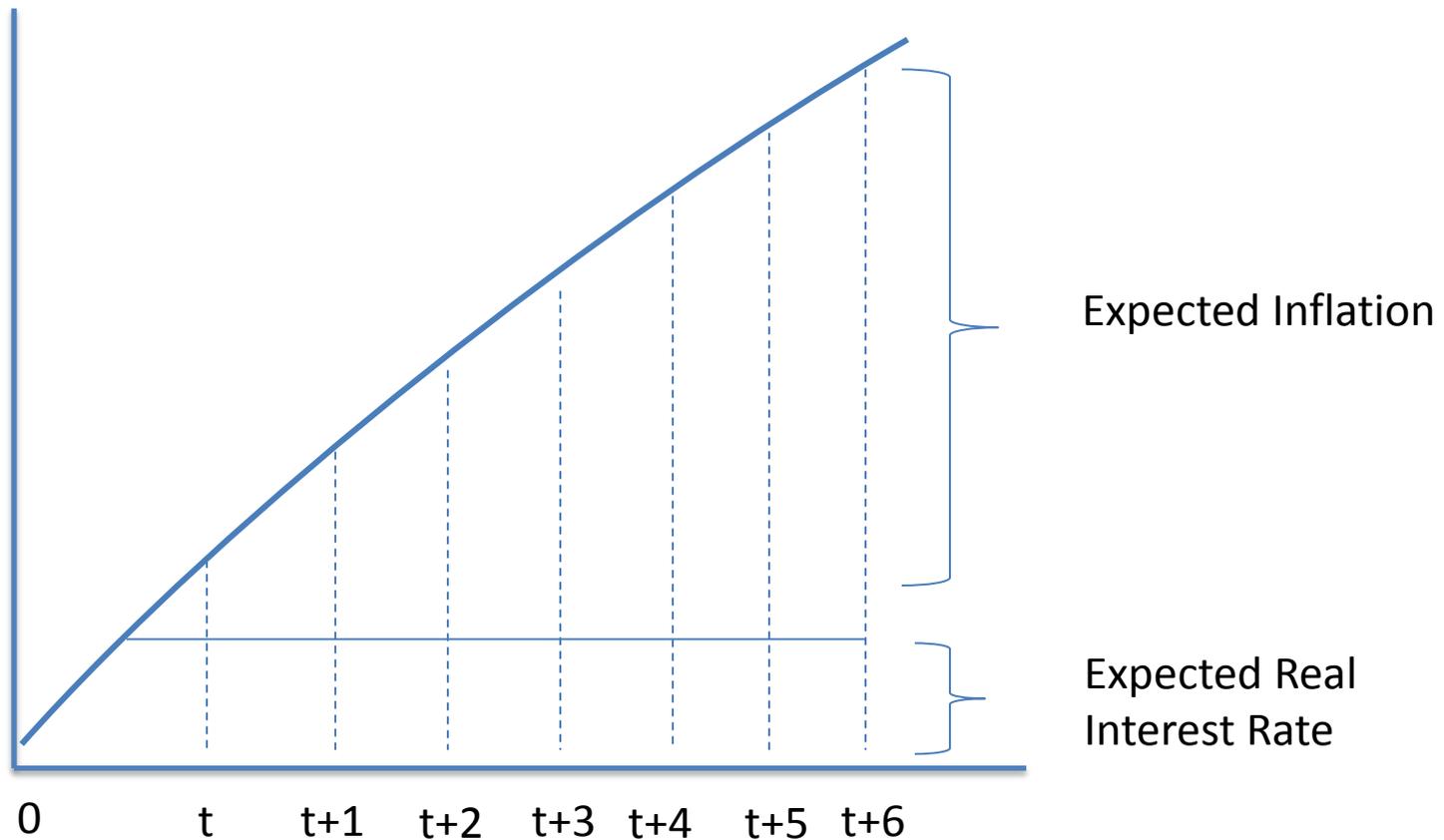
Yield Curve Theories

- Pure Expectations Theory
- Liquidity Preference Theory
- Preferred Habitat Theory

Pure Expectations Theory

- Pure expectations theory states that the shape of the yield curve is determined by market expectations on future economic growth and inflation.

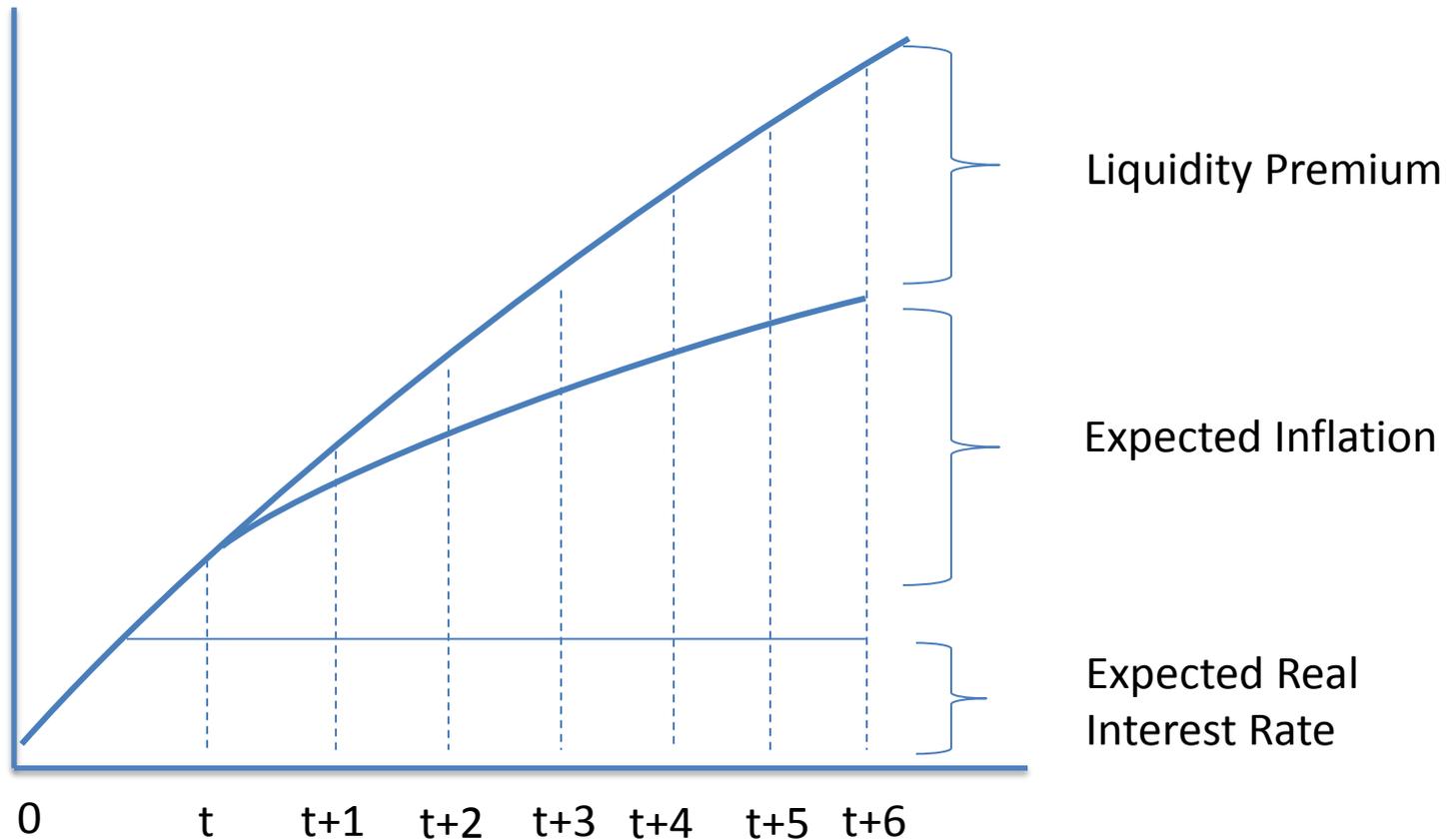
Pure Expectations Theory



Liquidity Preference Theory

- Liquidity theory states that investors demand an additional premium to invest in longer-term securities.

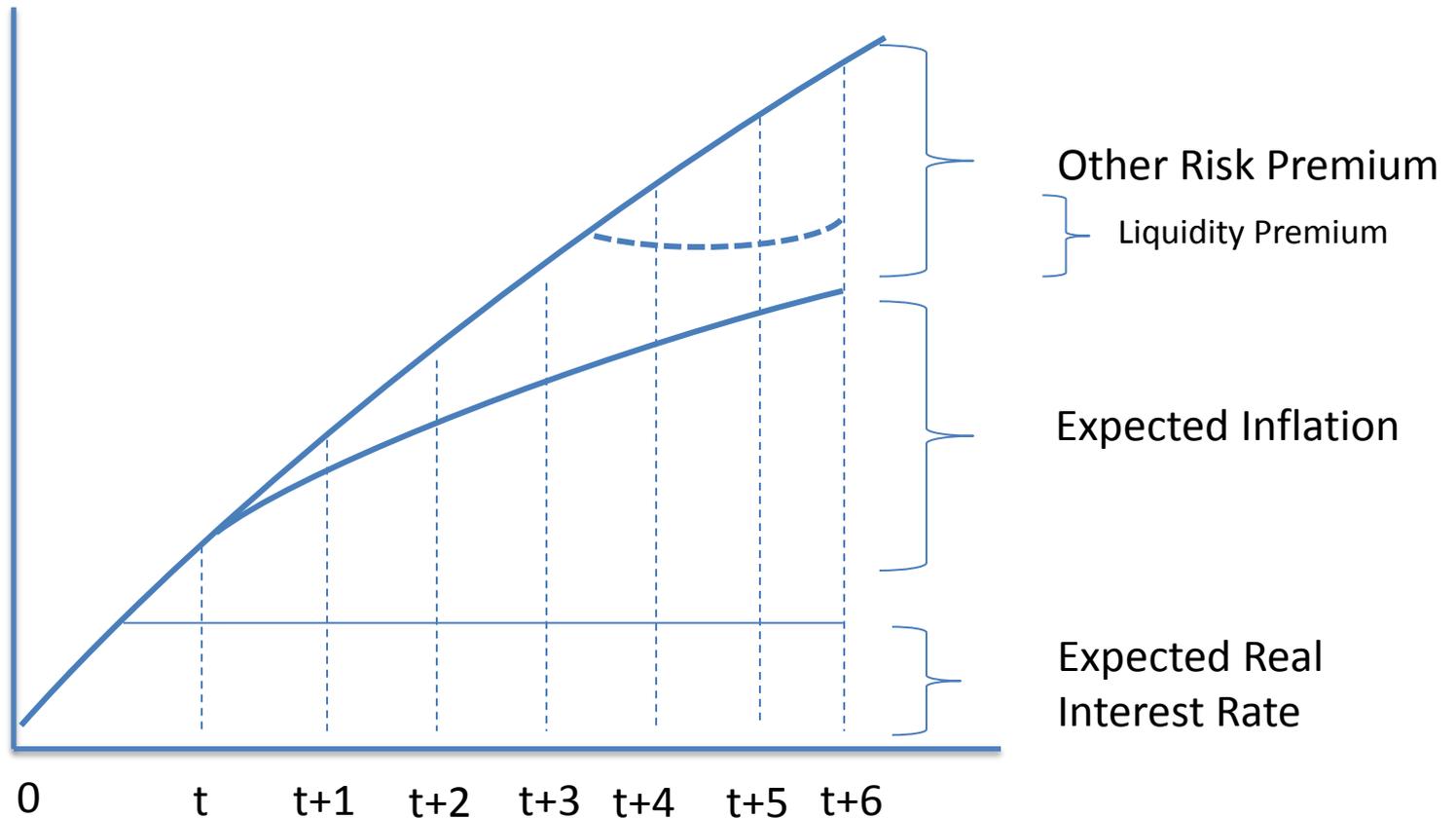
Liquidity Preference Theory



Preferred Habitat Theory

- Preferred habitat theory states that the shape of the yield curve is dependent on market demand by specific investor segments in specific bond tenors.

Preferred Habitat Theory



Risk of Bonds

- I. Credit Risk
- II. Inflation Risk
- III. Liquidity Risk
- IV. Interest Rate Risk
- V. Foreign Exchange Risk

Credit Risk

- *3 Types:*
 - **Default Risk** – risk that the issuer may fail to fulfill its promised payments of coupon and/or principal
 - **Credit Spread Risk** – risk that the spread between the rate of a risky bond and that of a risk-free bond may change
 - **Downgrade Risk** – risk that the rating of a bond may be lowered by major credit rating agencies

Inflation Risk

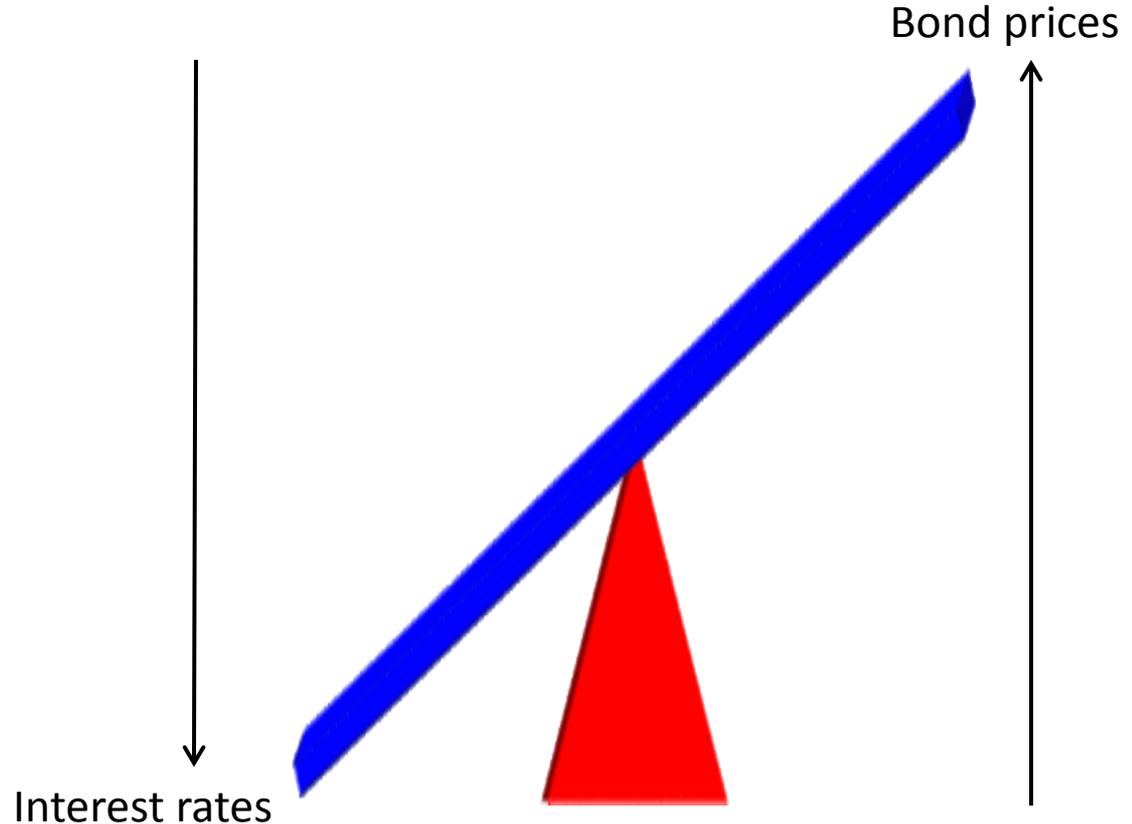
- High inflation erodes the real value of conventional bonds (i.e., bonds with fixed coupon).
 - Expectations of higher inflation induce higher bond yields and lower bond prices
- Longer-tenor bonds tend to have higher inflation risk.
- Inflation-linked bonds provide a fixed return regardless of inflation by adjusting coupon payments in line with inflation

Liquidity Risk

- Liquidity refers to the ease with which a reasonable size of a bond can be traded within a short notice, without adverse price reaction
- Illiquid bond markets tend to have:
 - Fewer dealers
 - Low depth
 - Wide bid-ask spreads
- Government bonds tend to be more liquid than corporate bonds

Interest Rate Risk

- A common risk to all bonds, especially bonds with a fixed-rate coupon.
- Interest rates and bond prices move in opposite directions: when interest rates decrease (increase), bond prices increase (decrease).
- With an increase (decrease) in the price of a fixed-rate bond following a decrease (increase) in interest rates, the yield-to-maturity of the bond decreases (increases).



Role of Coupon Rates on Interest Rate Risk

- Bonds with a lower (higher) coupon rate generally have higher (lower) interest rate risk.
 - When interest rates increase, the price of a bond with a lower coupon rate will fall more than the one with a higher coupon rate.
- Bonds with longer (shorter) maturities generally have higher (lower) interest rate risk.

Role of Maturity on Interest Rate Risk

- Bonds with longer (shorter) maturities generally have higher (lower) interest rate risk.
 - Bonds with longer (shorter) maturities face higher (lower) risk of a change in its price due to changing interest rates prior to its maturity.
 - Thus, bonds with longer maturities tend to offer higher coupon rates to compensate for the greater interest rate risk.

Foreign Exchange Risk

- Exists in bonds denominated in foreign currencies or in bonds denominated in a currency other than the bond investor's local currency.
- Can be measured by foreign exchange volatility.
- Can be hedged by derivative instruments—forwards, futures, options.