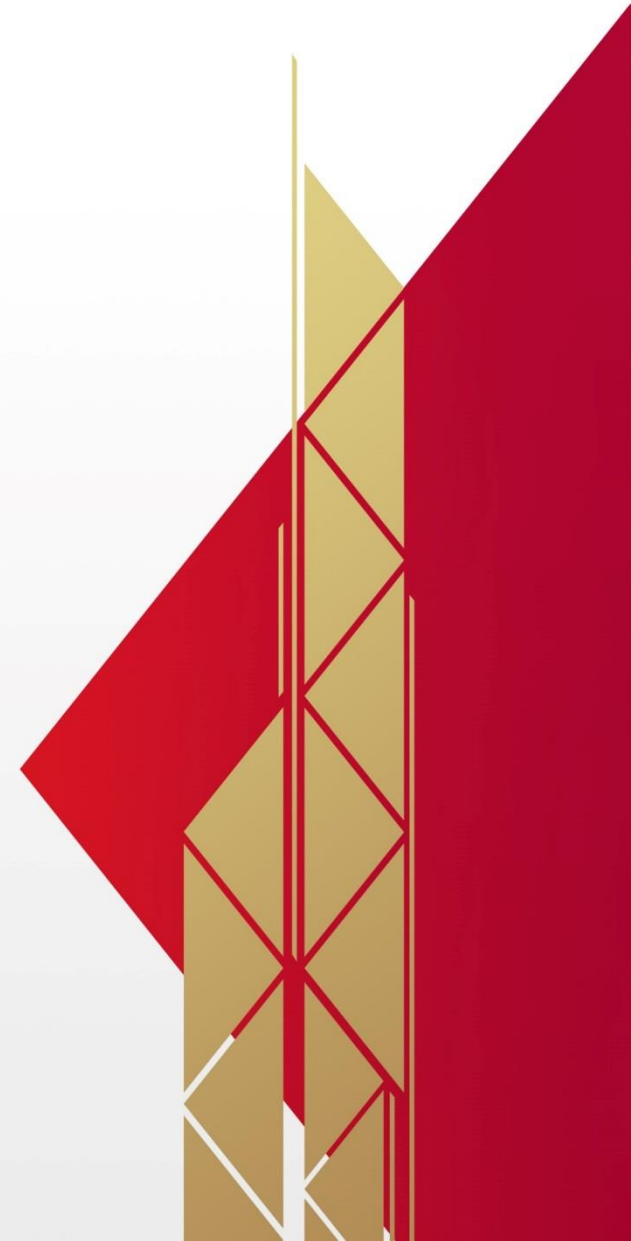




Introduction to Financial Markets

Bank of China (Hong Kong)
9th October 2020



Overview

- ▶ Financial Markets include a wide range of products:
Foreign Exchange (FX), Money Market, Fixed Income, Commodities, Equities and Derivatives
- ▶ Different banks/ investment banks may organize their financial markets businesses differently; typically can be divided into client-facing side (**trading book**) and non-client facing side (**banking book**)
- ▶ It is common that banks/ investment banks may further divide their sales & trading businesses into **FICC** (**Fixed Income, Currency and Commodities**) and equities

Financial Markets Products



Banking Book Investment – Overview

- **Residual funding** (Deposits +Capital- Loans) of a bank can be lent to other banks in the interbank **money market**. A bank may also use its residual funding to buy **bonds or certificates of deposit (CD)**
- A bank's funding position may change due to changes in client activities (e.g. loans & deposits)
- Among other things, large client deposit movements may create funding shortfall, the bank will then need to borrow in the money market to cover the shortfall

A bank's Balance Sheet

Assets		(in HKD'bio)	Liabilities and Equities		(in HKD'bio)
Customer loans	[x]		Customer deposits	[x]	
Long term bond investment	[x]		Capital	[x]	
Money markets portfolio	[x]				



Residual Funding

Banking Book Investment - Strategies

- ▶ Banks may invest residual funding in money market instruments (e.g. depos, CDs, reverse repo with tenor < 1yr) and bonds (credit & government bonds) of longer tenors, which can range from 1 year to 30 years

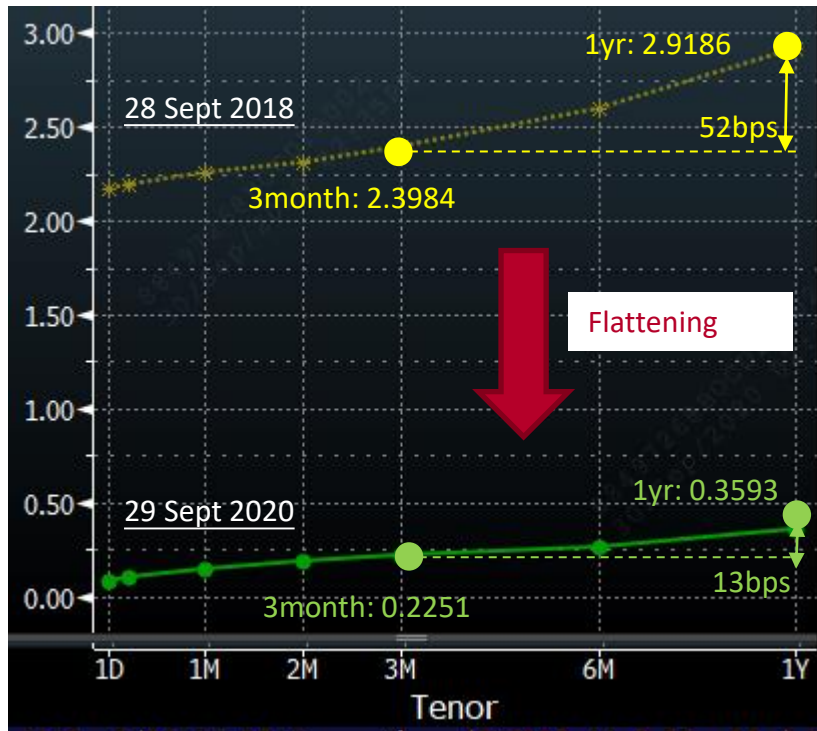
- ▶ Two common strategies to make profits in banking book:
 1. Riding yield curve
 2. Earning credit spread

Banking Book Investment – Riding Yield Curve

- ▶ A bank receives majority of its funding from client deposits in the form of CASA (current account saving accounts) that earns no or very low interest, or term deposits with maturity < 1 year
- ▶ Despite the short maturities of these deposits, a bank’s funding pool is comprised of deposits from vast number of retail and corporate customers, and many of them tend to roll over their deposits
 - Different type of clients (e.g. retail, corporate, FI) exhibit different behaviors, and to manage liquidity risk, a bank assumes different run off rates in its model
- ▶ A bank can deploy its funding in the interbank and bond markets for tenors exceeding the maturities of its funding pool and earn the interest rate spread by “riding the yield curve” , this strategy is also known as “gapping”
- ▶ A combination of lower interest rate environment and flattened yield curve hurts profitability

Riding Yield Curve

USD LIBOR

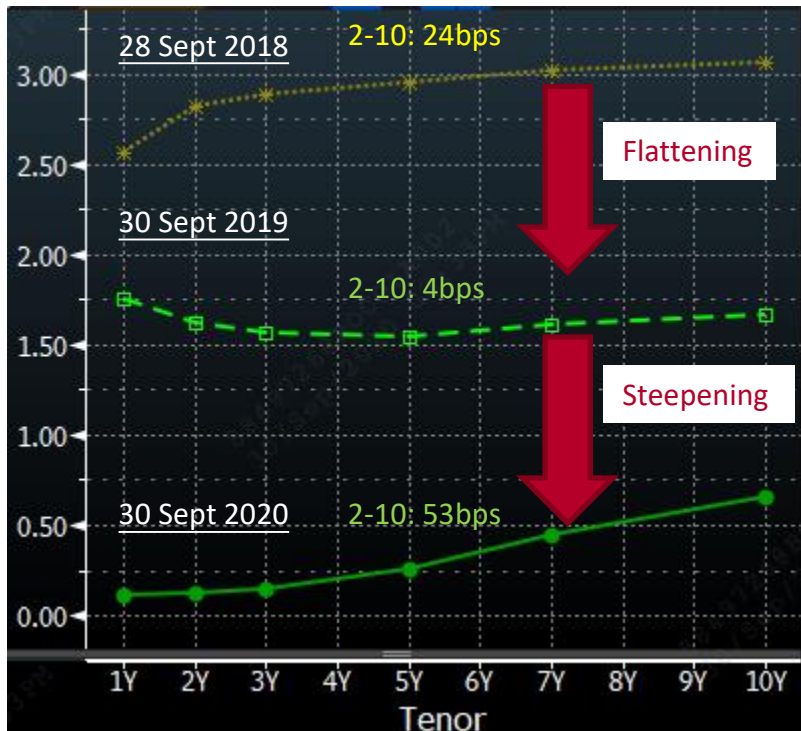


- LIBOR is the reference rate at which large banks indicate that they can borrow from one another on an unsecured basis

- A **“normal”** yield curve is upward sloping as lenders expect more compensation for:
 - Increased exposure to potential defaults
 - Having the funding held up for longer period -> liquidity premium
- In addition, the steepness of LIBOR curve also reflects market expectation for Fed’s future rate hikes/ cuts
 - On 28 Sept 2018, traders were expecting 2-3 rate hikes of 25 bps within 12 months, as US economy projected to grow and unemployment rate to remain low
- Between Sept 2018 and Sept 2020, the curve:
 - shifted lower after multiple rate cuts since July 2019
 - flattened, reflecting 1) no rate hike or cut in the near future, 2) banks flush with funds thanks to loose monetary policy

Riding Yield Curve

USD Treasury



- US Treasury curve is the most important yield curve, given the size of the US Treasury market and its “risk-free” status
- It is also used as the benchmark curve in the bond market

- The shape of the curve is often used by observers as an economic indicator
- A steep curve is common in a healthy economy (as shown in Sept 2018) :
 - Economy is projected to grow and inflation is expected to pick up
 - Credit improves for riskier issuers, investors prefer bonds that pay higher yield over USTs, hence driving the long-end Treasury yields higher
- As the economy begins to deteriorate (as shown in Sept 2019), “flight-to-quality” demand drives the long-end yield lower hence flattening the curve. An inverted yield curve is thought as a bearish signal by some investors
- The yield curve on 30 Sept 2020 shows that the short-end has bottomed (indicating end of a rate cut cycle); the long-end has steepened, reflecting stabilizing economy and jump in borrowing to fund massive fiscal stimulus

Interest Rate Risk

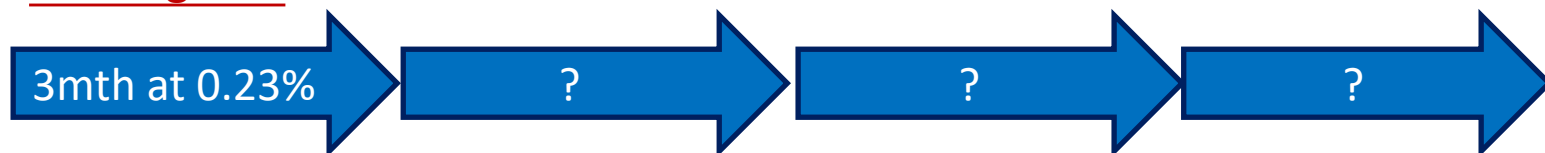
- ▶ A bank can also borrow funding from the interbank market and make placements with longer tenors at higher interest rates to **increase leverage**. Since its funding has shorter tenors than its placements, the bank will need to roll over its funding at maturities due to the duration mismatch
 - **Interest rate risk** – At rollover, the funding cost can spike and may exceed interest income from the placements

Example:

Interest Income



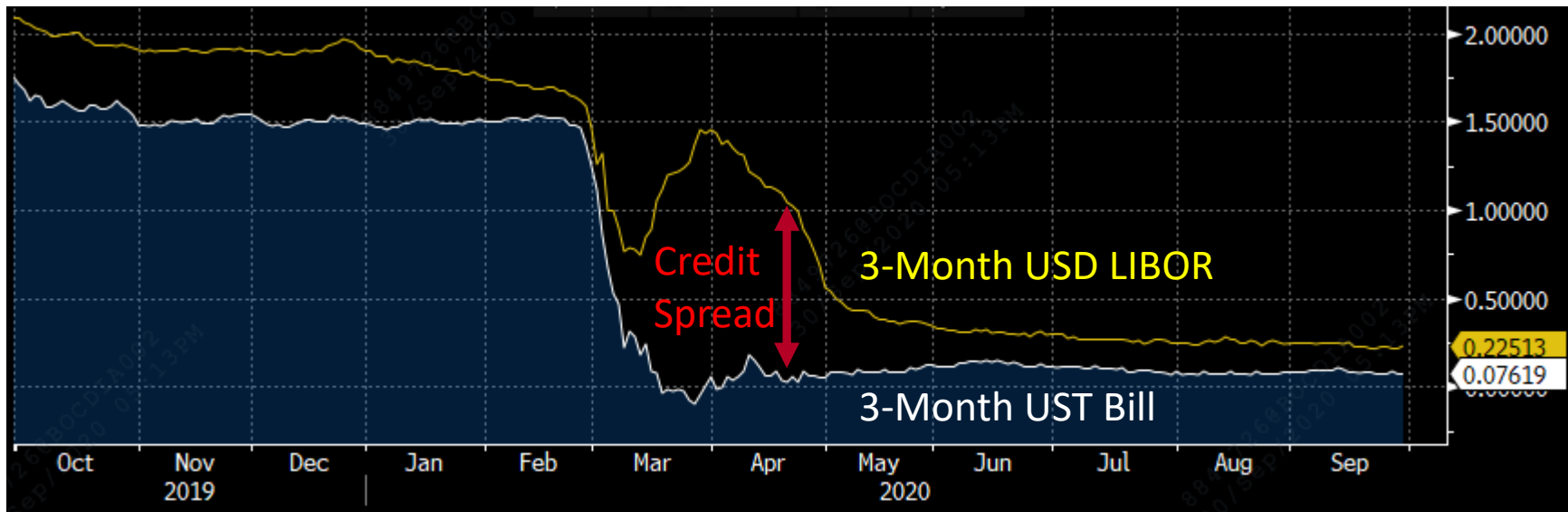
Funding Cost



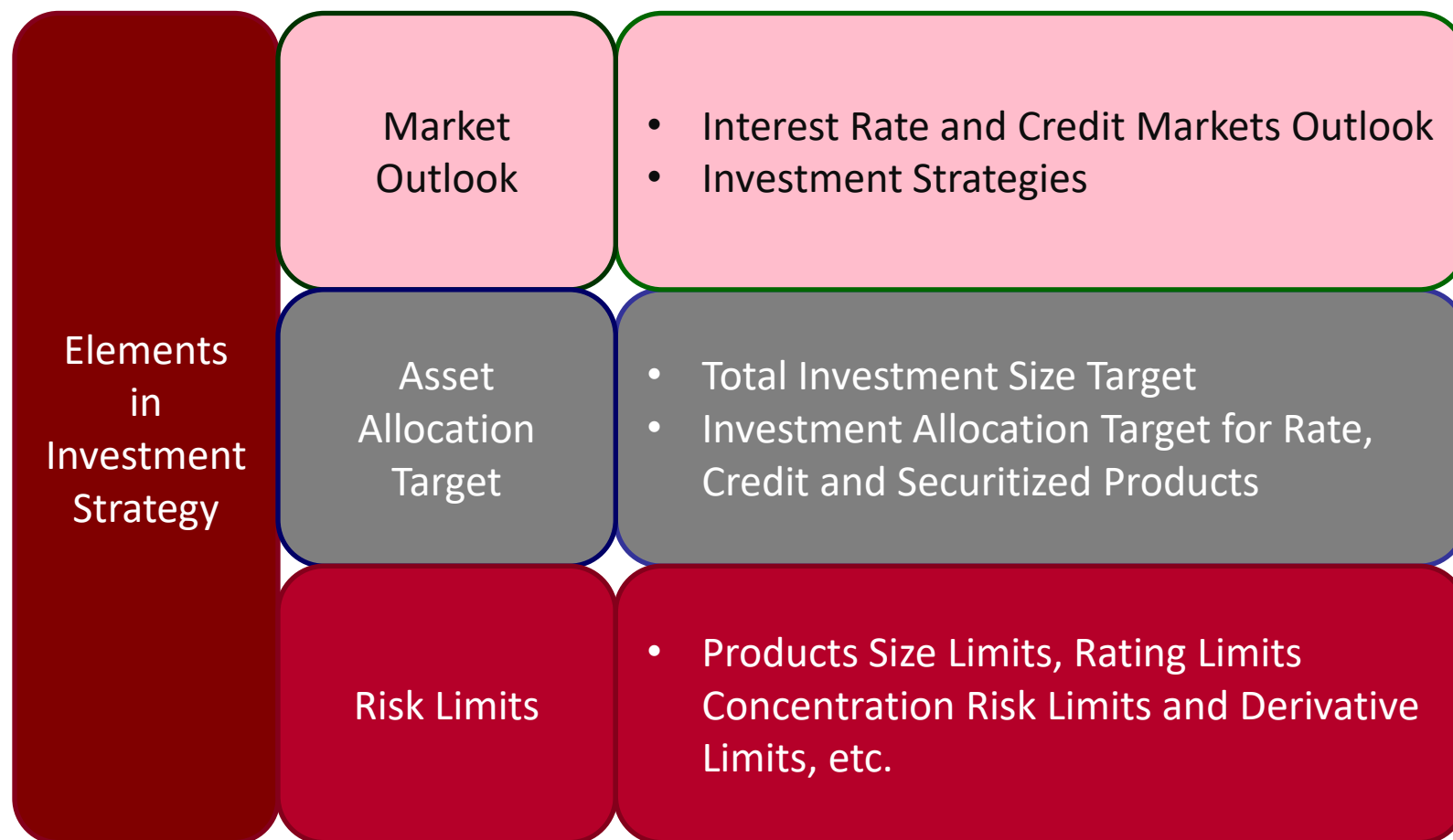
Credit Risk

- ▶ Despite the short maturities, lending to another bank is not risk-free
- ▶ Investors generally accept US Treasuries as “risk-free”
- ▶ Positive spread between 3-month Libor and 3 month UST bills as the interbank market is not risk free

3-Month USD LIBOR vs 3 Month UST Bills

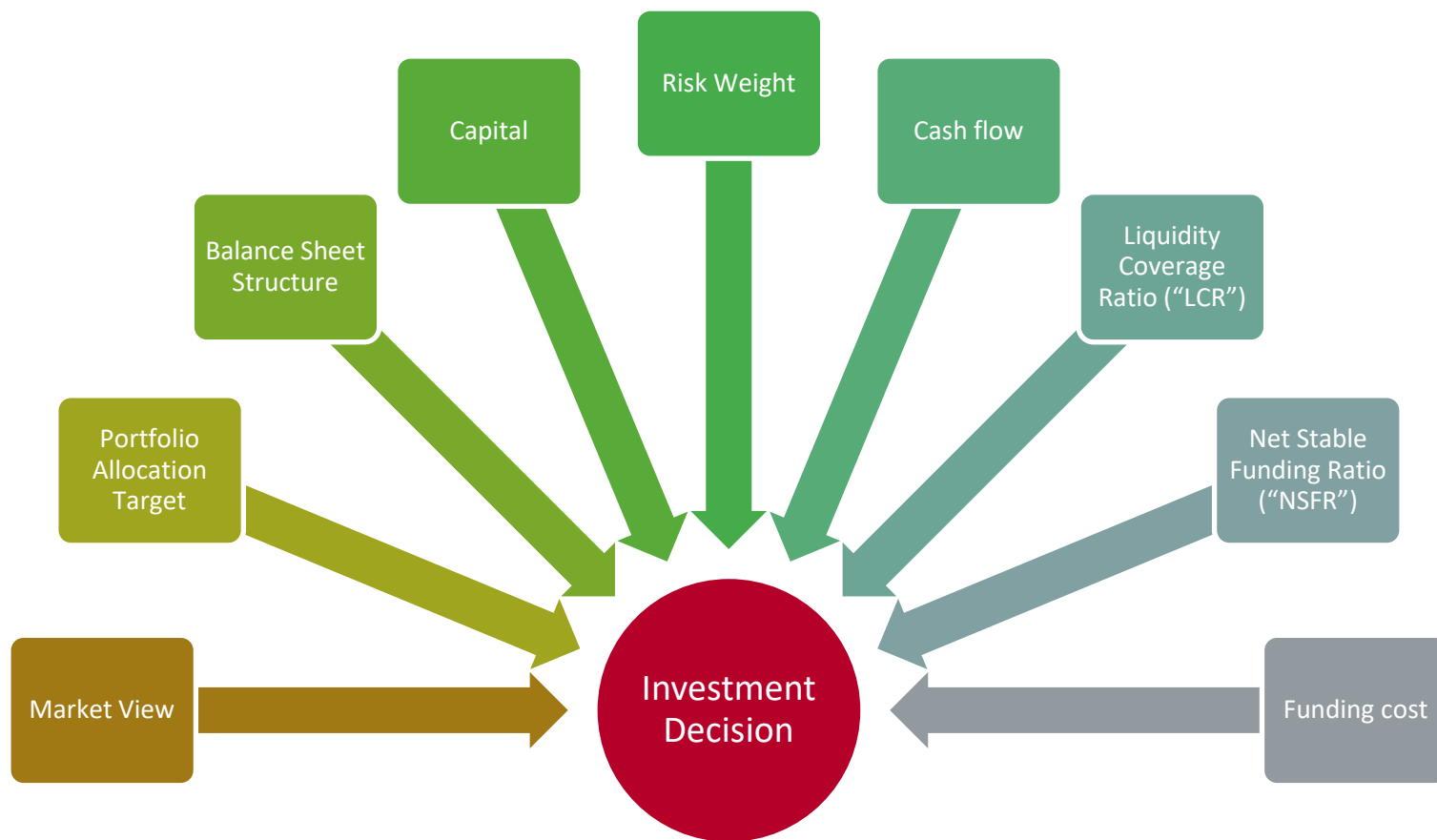


Top Down – Elements in Investment Strategy



Bond Investment Strategy

Bottom Up – Investment on Deal Level



Speaking of LIBOR: History and Future

- The London Interbank Offered Rate (LIBOR) introduced in **1986** is the reference rate at which large banks indicate that they can borrow short-term wholesale funds from one another on an unsecured basis in the interbank market.
- Total outstanding notional of IBOR notional across markets and currencies: ~ **USD370 trillion**
- Total outstanding notional of USD LIBOR and EURIBOR: > **USD300 trillion**
- **80%** of IBOR-linked exposure is from OTC and exchange-traded derivatives
- **3-month tenor** is most widely referenced, by volume



LIBOR: Why Is It Disappearing

- Significant decline in transaction volume for calculating LIBOR since the 2008 financial crisis. LIBOR has increasingly relied on "market and transaction data-based expert judgment."
- Libor submission has been surrounded by manipulation scandal
- Financial Conduct Authority (FCA), which supervises the administrator of LIBOR, ICE Benchmark Administration, will no longer compel panel banks to submit to LIBOR after 2021



LIBOR Discontinuation: A Certainty Not A Choice


- The Discontinuation of LIBOR is not a possibility, it is a certainty. We must anticipate it, we must accommodate it and we must adapt to it (J. Christopher Giancarlo, US Commodity Futures Trading Commission, Chairman, 12 July 2018)
- Committees have been formed across countries to identify the ARR for each currency and decide whether each IBOR will be discontinued.
- Major regulators across the globe sent letter to request authorized institutions (AI) to make preparations for the transition associated with global benchmark reform
- Market associations like ISDA & LMA also putting effort in their respective areas



BENCHMARK REFORM
The clock is ticking

Adoption of ARR Across The Globe

All ARRs are overnight backward looking rate

Jurisdiction	Working Group	ARR	Rate administration	Secured vs Unsecured	First publication
	Alternative Reference Rate Committee (ARRC)	Secured Overnight Financing Rate (SOFR)	Federal Reserve Bank of New York	Secured	3 April 2018
	Working Group on Sterling Risk-Free Reference Rates	Reformed Sterling Overnight Index Average (SONIA)	Bank of England	Unsecured	23 April 2018
	Working Group on Risk-Free Reference Rates for the Euro Area	Euro Short-Term Rate (ESTR)	European Central Bank	Unsecured	October 2019
	The National Working Group on CHF Reference Rates	Swiss Average Rate Overnight (SARON)	SIX Swiss Exchange	Secured	Already exist prior to 2018
	Study Group on Risk-Free Reference Rates	Tokyo Overnight Average Rate (TONAR)	Bank of Japan	Unsecured	Already exist prior to 2018
	Working Group on Alternative Reference Rate	Hong Kong Overnight Index Average (HONIA)	Treasury Markets Association	Unsecured	Already exist prior to 2018



Trading Book



Sales & Trading – Clients

➤ Type of Clients

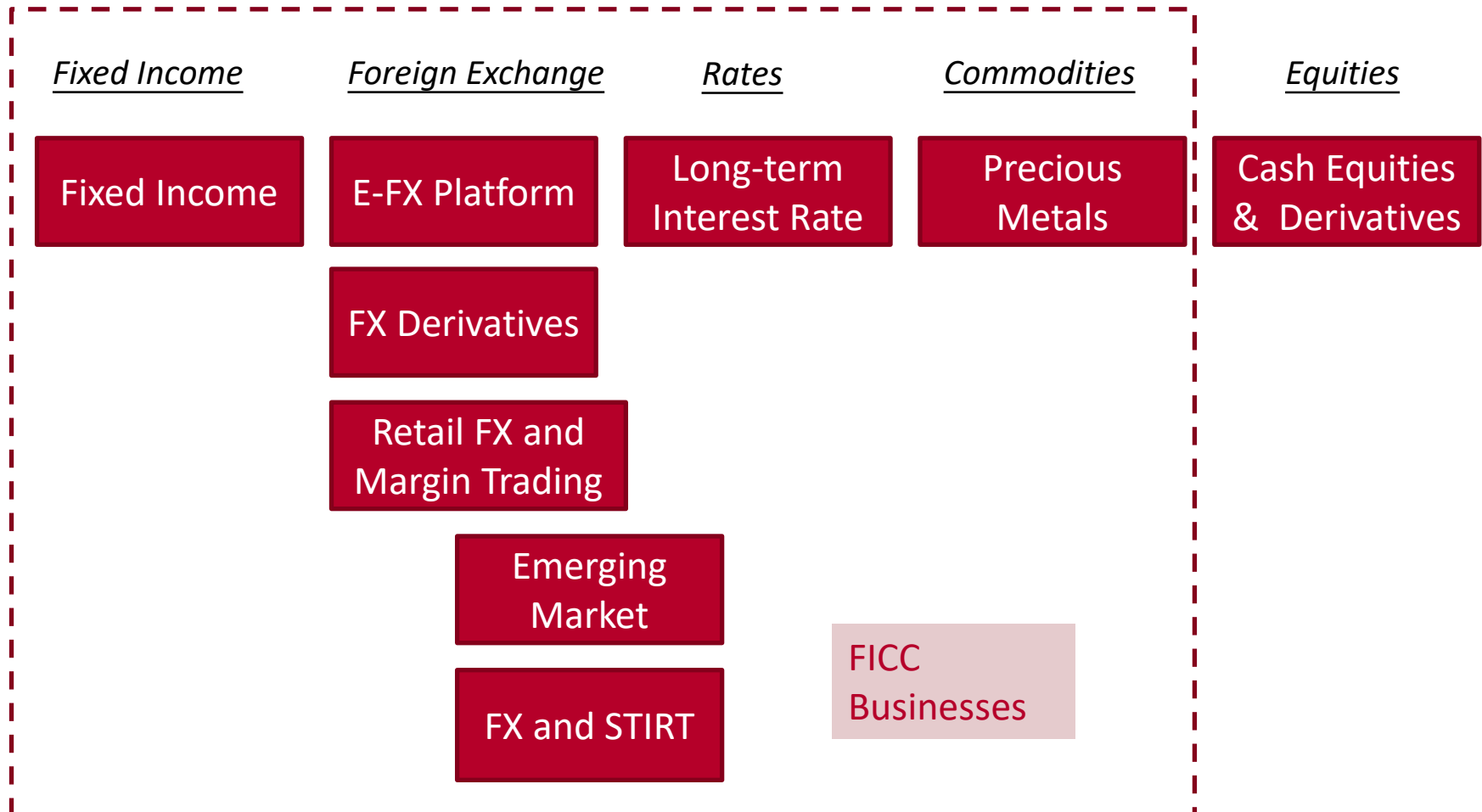
- Financial markets clients mainly comprise of –
 - **Financial Institutions:** such as central banks, sovereign funds, asset management firms, insurance firms, hedge funds, prop trading firms and private banks
 - **Corporate clients:** ranging from multinational corporates to local SMEs
 - **Family Offices/ High Net Worth Individuals:** these clients may trade through a bank's own private banking division. Some big family offices may get direct coverage

➤ Geographical coverage

- It varies from bank to bank, however it's common to set up a bank's Hong Kong office as regional hub to cover clients across Asia ex Japan
 - Some banks may choose Singapore as their regional hub for FICC products
 - Most global banks have trading floors in Tokyo, which is an established financial center

Sales & Trading – Products

It is common to divide and group products into FICC and Equities



Sales & Trading – Fixed Income

➤ Products

- Sovereign – Debt securities issued by a national government
- Corporate/Credit – issued by Financials and Corporations, Banks, Security Houses, Insurance Companies, Asset Management Firms, SOEs, Private Firms, etc)

➤ Clients

- **Issuers:** Corporate clients seek capital in the bond market to repay existing debt/ bank loans or new capital to expand operations. Syndicate desks help issuers distribute in the primary market.
- **Investors:**
 - Commercial Banks/ Asset Management Firms/ Insurance Companies/ Hedge Funds/ Prop Trading/ Private Banks/ Central Banks/ Sovereign Funds/ Non-Bank FI
 - Investors may participate in both primary and secondary markets
 - Traders make-market and provide market liquidity; Sales liaise with buyers and sellers and facilitate trade executions

Sales & Trading – Foreign Exchange (FX)

➤ Products

- Spot – Local currencies (such as CNH and HKD); G8 (USD, CAD, EUR, GBP, CHF, NZD, AUD and JPY)
- Derivatives: Such as Swap, Forward and Options

➤ Clients

- **A corporate client** may have natural business need to engage in FX transactions. A Chinese exporter may receive USD or EUR from its customers, but its costs (such as wages, raw material, utilities, etc) are incurred in CNH
- Upon receiving USD proceeds from its customers, the exporter may choose to buy CNH in the spot market;
- However, USDCNH is often volatile, the exporter may wish to hedge its future FX exposure using derivatives such as swap or forward
- **A FI client** may wish to invest in bonds denominated currencies different from its base currency
- **An investor** may form an active view and take a speculative position

Sales & Trading – Interest Rate Derivatives

➤ Products

- Interest Rate Swaps
- Cross Currency Swaps
- Long-term FX Swaps (maturity >2 years)

➤ Clients

- Borrowers and lenders are exposed to interest rate risks
- A corporate borrower may have outstanding floating rate loan. An interest rate hike will lead to higher interest expense, the borrower may decide to hedge through IRS (“pay fixed and receive floating”) and turn its liability from floating to fixed
- Banks and Insurance actively manage their interest rate exposure through interest rate derivatives
- Macro hedge funds may take active views using long term interest rate products