

# **Capital Markets & Investments**

## **Session 9: Fixed Income (6) – Not-so-Fixed Income**

**Spring 2025  
Professor Simon Oh**

# Interest Rate Risk and Duration Galore

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Interest rate risk matters for understanding:

- Banks
- Pension Funds
- Insurance Companies
- Student Loans
- Property Tax Revenue
- Wealth Inequality
- **Crypto**

## Narrow Banking

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- Banks only hold safe, liquid assets and don't engage in risky lending
- Deposits are fully backed by risk-free assets
- Idea goes back to the 1930s ("Chicago Plan")
- But mostly not adopted due to concerns about profitability

Wednesday, March 13, 2019

Fed vs. Narrow Banks

**The Safest Bank the Fed  
Won't Sanction**

# Tether

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- Stablecoins: cryptocurrency designed to be stable (usually pegged to the US dollar)
  - Ideally, 1 stablecoin = \$1.
- Tether: Original and biggest stablecoin, **similar to a narrow bank**
  - A bank takes your dollars and gives you a checking balance.
  - Tether takes your dollars and gives you USDT.
  - A bank holds cash, loans, and securities.
  - Tether holds cash and securities (but minus the regulation and deposit insurance)

# Tether

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- In 2019, it was found that Tether had only been fully backed some of the time and had actually used the “reserves” to cover losses at its sister company, Bitfinex

3. **The Tether Reserves: USDt Was Not At All Times Fully Backed by U.S. Dollars Held In the Tether Bank Accounts**

In contrast to Respondents’ statements, Respondents did not at all times hold sufficient fiat reserves in the Tether Bank Accounts to back USDt tokens in circulation for the substantial majority of the Relevant Period. Indeed, for the time period of September 2, 2016 through November 1, 2018, the aggregate amount of fiat currency held by Tether in the Tether Bank Accounts was less than the corresponding USDt tokens in circulation on 573 of 791 days,

# Balance Sheet (as of December 2024)

Asset Category	Amount in USD
1. Cash & Cash Equivalent & Other Short-Term Deposits:	
U.S. Treasury Bills <sup>8</sup>	94,471,651,607
Overnight Reverse Repurchase Agreements <sup>9</sup>	14,101,623,321
Term Reverse Repurchase Agreements <sup>10</sup>	3,077,452,467
Money Market Funds <sup>11</sup>	6,506,444,067
Cash & Bank Deposits <sup>12</sup>	108,844,601
Non-U.S. Treasury Bills <sup>13</sup>	69,263,354
<b>Subtotal</b>	<b>118,335,279,417</b>
2. Corporate Bonds <sup>14</sup>	14,270,773
3. Precious Metals <sup>15</sup>	5,318,875,241
4. Bitcoin <sup>16</sup>	7,857,529,277
5. Other Investments <sup>17</sup>	3,984,793,433
6. Secured Loans <sup>18</sup>	8,194,007,406
<b>Total (1+2+3+4+5+6)</b>	<b>143,704,755,547</b>

## Creating “Money”

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- Banks: Take deposits, keep a fraction, and lend the rest
  - Loans create new deposits, which expands the money supply
  - Issue: Bank runs if depositors panic, Excessive duration mismatch
- Fiat-based Stablecoins (e.g. Tether)
  - You give \$1, they issue 1 stablecoin, and the assets (reserves) back every token
  - Issue: assets (reserves) may not be there
- Algorithm-based Stablecoins (e.g. TerraUSD)
  - Uses a second token (e.g. LUNA) to stabilize price
  - Issue: death spirals, works until it doesn't

## TerraUSD (UST)

The Crypto Cult of Do Kwon: ‘If It Was a Ponzi Scheme, They Did a Good Job’ He built a \$60 billion empire by calling people “poor.” Then it blew up.



By Kevin T. Dugan, staff writer at *Intelligencer*, who covers money and business



Do Kwon   
@stablekwon

Replying to [@rtalbot55](#) [@Frances\\_Coppola](#) and 2 others

I don't debate the poor on Twitter, and sorry I don't have any change on me for her at the moment.

11:51 AM · Jul 1, 2021 · Twitter for iPhone

25 Retweets   86 Quote Tweets   116 Likes



## TerraUSD (UST)

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Mechanism:

- If  $UST > \$1$ , users could burn LUNA to mint UST
- If  $UST < \$1$ , users could burn UST to mint LUNA

Death Spiral:

1. UST loses its \$1 peg, so people burn UST to mint LUNA
2. More LUNA gets printed, so supply  $\uparrow$  and LUNA price  $\downarrow$
3. As LUNA crashes, confidence drops, so more people sell UST
4. More UST selling leads to more LUNA printing, so LUNA price  $\downarrow$
5. Rinse and repeat

# Crypto and Capital Markets

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- “Crypto is constantly relearning the lessons of traditional finance.”

Impermanent loss	=	Negative convexity
Stablecoins	=	Narrow banking (minus regulation)
Yield farming	=	Carry trade
Liquidity mining	=	Credit card sign-up bonuses
FTX (2022)	=	MF Global (2011)
BitConnect (2017)	=	Bernie Madoff (2008)