CoCo Bonds:

Are They Debt or Equity?
Do They Help Financial Stability?

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Credit Suisse takeover by UBS

- A historical deal on Sunday, March 19, 2023
  - UBS Group AG agreed to buy Credit Suisse Group AG
  - Brokered by Swiss Department of Finance, SNB, FINMA
- All-share transaction
  - 1 UBS share for every 22.48 Credit Suisse shares
  - Equivalent to 0.76 franc per share or 3 billion francs total

  - Why 3 billion?

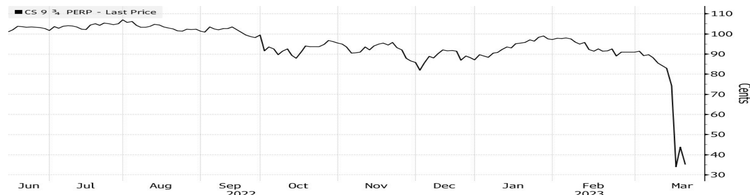
AT1 CoCo bonds are wiped out

- Credit Suisse has issued a bunch of CoCo bonds
  - 13 AT1 CoCo bonds outstanding issued in

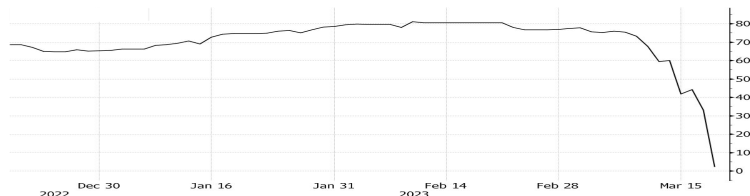
    Swiss francs, U.S. dollars, and Singapore dollars
  - Par value: 16 billions francs = $17.3 billions
- Apparent violation of absolute priority
  - Value of equity in the deal: 3 billion francs or $3.2 billions
  - Value of AT1 CoCo bonds in the deal: zero!
- Finma explanation
  - The deal triggers “complete write-down”
  - In order to increase core capital
- Immediate questions from investors:
  - Is this legal? Are CoCo bonds debt or equity?

Price as claims senior/junior to equity?

- Price as subordinate debt until the takeover deal



- How dealers quote on the day after the takeover deal



- Trading for few cents after wipe out. But, why still positive?

Are investors sophisticated?

- Saudi National Banks
  - invested 1.4b francs in CS last year, lost $1b this month
- Qatar Investment Authority
  - converted $4.5b of debt to CS AT1 bonds
- Hedge funds holding of Credit Suisse AT1 CoCos
  - Pimco holds around $807 million (anonymous person)
  - Invesco holds $370 million (Bloomberg)
  - BlackRock had $113 million in February (Bloomberg)
  - Lazard Freres Gestion, Lazard Capital Fi SRI fund
    - allocated 7.4% of its 1.45 billion euro (Reuters)
- Senior Credit Suisse employees
  - were paid partially in AT1 CoCo bonds as compensation

New old ways to lose money?

American comedian Will Rogers observed that:

"You can't say civilization don't advance . . . in every war they kill you in a new way."

In each phase of markets, investors find new old ways to lose money.

— Satyajit Das, author of
Traders, Guns, and Money
May 01, 2012, *Financial Times*

"Don't they read Prospectus?"

Designed to be both debt and equity

- AT1 CoCo bonds are perpetual securities with two triggers
  - Tier 1 ratio drops to/below 7% (“Consistency Event”)
  - Regulator decision (“Viability Event”)
- Function as debt if not triggered
  - Banks raise funds at par and pay interests regularly
  - No earning dilution, tax deduction of interests
  - Higher priority of claim than equity in bankruptcy
- Function as equity if triggered
  - Stop paying interest without credit event
  - Convert to certain shares or write-down par value
  - Credit Suisse: 100% permanent write-down (bail-in)
    (proposed by bankers Paul Calello and Wilson Ervin)

Debt or equity as needed for

- Designed to blur the line between debt and equity
  - Lose value before equity if triggered
  - Retain absolute priority at bankruptcy if not triggered
    - Why positive price after being wiped out?
      - Bond investors bet that the deal may fail and Credit Suisse may be sent to bankruptcy court.
- Who treated CS CoCo bonds as debt?
  - Bond investors: priced as subordinate debt
  - Credit Suisse: enjoyed cheaper funding as debt
- Who treated CS CoCo bonds as equity?
  - Regulators: count CoCo as additional tier 1 capital
  - Credit Suisse: use CoCo to meet capital requirement

Wipeout rattled the global AT1 market

The $275b AT1 CoCo bonds market

- Selected large banks that issued AT1 CoCo bonds

Bank	HSBC	BCS	UBS	BNP	SCG	SAN	DB
AT1 ($bn)	19.7	16.1	12.9	12.4	10.8	9.4	9.1
% of CET1	16.6	28.2	28.3	12.7	20.7	11.9	17.7

- Write-down or conversion in AT1 CoCo market
  - UBS and HSBC have 100% permanent write-down clause
  - Most others use partial write-down or conversion to shares
- Tier 1 triggers or regulator triggers
  - All AT1 CoCo bonds have regulator trigger (Basel III)
  - Most (except issued by Canada banks) have tier 1 trigger
- Countries with the most and least banks issuing AT1 CoCos
  - Most: China, India, Britain, Switzerland, ...
  - **None of U.S. banks have issued any CoCo bonds.**

Why didn't U.S. banks issue any CoCo?

- Debate on CoCo in the U.S.
  - Leading proponents: Squam Lake Working Group (2009), Flannery (2009), Pennacchi (2010), Calomiris & Herring (2011)
  - Major banks welcome, and pushing for, CoCo: Goldman Sachs
  - Some scholars raised concerns: Sundaresan & Wang (2010), Admati, DeMarzo, Hellwig, & Pfleiderer (2010)
- Regulations in the U.S.
  - Basel III: not "core tier 1 equity" but "additional tier 1 equity"
  - Dodd-Frank Act Sec 115: regulators study/consider using CoCo
  - FSOC Report to Congress: no CoCo as regulatory capital
- Taxation: Internal Revenue Code Section 163(l)
  - Reference of, or convert to, equity disqualifies for deduction

Insulate taxpayers from bank risk?

- Proponents of CoCo bonds argue: CoCo bonds allow banks
  - to obtain bigger capital cushion without issuing equity,
  - to recapitalize bank by private investors when triggered,
  - to avoid government and taxpayer support.
- Flannery (2014) and Calomiris & Herring (2013):
  - "Academics and regulators conjectured that including sufficient cocos in a bank's capital structure could substantially insulate taxpayers from private investment losses."
  - "help solve our too-big-too-fail problem"
- Taxpayers are at risk again 15 years after bailout of UBS!
  - Swiss National Bank: 100b franc liquidity line to UBS
  - Swiss government: 9b franc guarantee for CS assets loss
  - Poll of Swiss people: 3/4 do not support the takeover

Useless tier 1 ratio trigger?

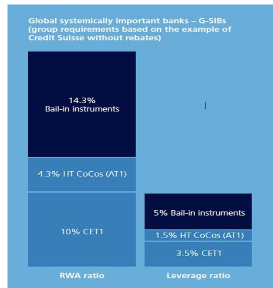
- 4 days before the deal, FINMA confirmed:

  "Credit Suisse meets the higher capital and liquidity requirements for systemically important banks."

- Credit Suisse balance sheet

Total Assets	531b
Liabilities	486b
Equity	45b
CET1 Leverage Ratio	5.4%
CET1 Ratio	14.1%

  - Write-down is triggered by regulator, not tier 1 ratio
  - Finance Minister: "CS would not have survived Monday."



- U.S. experience with tier 1 ratios
  - Bear Stearns: 13.5% the month before taken over by JPMC
  - Lehman Brothers: 10.1% in the month of bankruptcy
  - Silicon Valley Bank: 15.4% in December 2022

Tigger based on market price?

- Flannery (2002, 2009) is an early advocate
  - Market trigger is timely, objective, hard to manipulate
- Concerns (Sundaresan and Wang, 2015)
  - Often have multiple or no equilibrium prices
  - Loss of information about bank value
  - Large pricing uncertainty opens potential manipulation
  - Confirmed in experiments by Davis et al (2014)
- Current regulation and practice
  - Basel III: tier 1 triggers or regulator triggers or both
  - EU 2013 Capital Requirements Reg: no market trigger
  - **No CoCos bonds have used market triggers.**
- Debate about market trigger is still continuing ......

Incentives for risk shifting?

- Sundaresan and Wang (2015): on the design of CoCo
  - CoCo with par C, conversion ratio m, conversion price K
  - Conversion replaces par value C by mK for CoCo holders
  - Conversion with $mK < C$ subsidizes prior equity holders
  - Most follow-up papers recognize $mK \geq C$ as desired
- Write-down subsidizes equity holder
  - 100% equivalents to zero conversion ratio $m = 0$
  - Majority of CoCos have write-down or “equity-subsidy”
  - Write-down: incentive for running bank down to trigger?
- Selected academic studies on CoCo’s incentives

  Berg & Kaserer (2015); Chan & van Wijnbergen (2017);

  Himmelberg & Tsyplakov (2020); Gamba et al. (2023)

Don’t ignore bank strategic responses

- Risk-shifting in corporate finance
  - Merton (1974), Green (1984): equity is option, convex function
  - Leland (1998), Toft & Prucyk (1997): covenant remove convexity
- Risk-shifting incentives in banks
  - Schneidar & Tornell (2004), Pennacchi (2006): same in banks
  - Capital requirement is like debt covenant of deposits
- Sundaresan & Wang (2022)
  - For a fixed bank liability structure, equity value is a convex function of asset value if capital requirement is low.
  - For a fixed bank liability structure, capital requirement can be raised high enough to remove the convexity of equity.
  - No matter how high capital requirement is, equity is always convex if bank optimizes liability structure with subordinate debt.

Triggering CoCo (dis)stabilizes bank?

- Using Liability Management Exercises, Vallee (2019) infers
  - triggering CoCo helps performance, higher ROA
  - triggering CoCo sends positive signal, higher bank value
  - banks do not try to avoid triggering CoCo
- We see different things in the trigger event of Credit Suisse
  - No more Saudi capital → taken over on public assistance
  - The takeover deal gives much lower bank value
- The near-trigger experience by Deutsche Bank in 2016
  - CDS widened to 248 bps, stock dropped by more than 40%
  - DB offered to buy back 3b euro-debt and 2b dollar-debt
  - CEO John Cryan: "They are not a great instrument.

    We shouldn't really need them going forward."

Help financial stability?

- Empirical research — e.g. Avdjiev et al (2020)
  - Issuance of CoCo bonds reduces CDS spread

    Because CoCo is lower claim than the debt under CDS?
  - Issuance of write-down CoCos raises stock price

    Because CoCo write-down subsidizes equity?
- AT1 bonds avoid nationalization or liquidation of Credit Suisse

Total assets	531b	Liabilities	486b	Equity	45b
AT1 wipeout	16b	Takeover price	3b	Badwill	56b

  - 56b is discounted from asset value in the deal
  - Wipe out AT1: equity value $=(531-56)-(486-16)=5\text{b}$

    otherwise, equity $=(531-56)-486=-11\text{b}$, no buyer
  - New ratios: CET1 ratio $=15.3\%$, leverage ratio $=5.86\%$
  - What if the bank had issued equity instead of AT1 CoCo?

Summary

- **Coco bonds are both debt and equity** (or neither?)

  John Cryan: *"when you want them to be debt they are equity and when you want them to be equity they are debt."*

- For academics, the true color of CS CoCo begs for questions
  - **Why do banks issue CoCos?** (for regulatory arbitrage?)
    - How much? (optimal bank liability structure)
    - Why don't U.S. banks issue CoCos?
  - **Can CoCo bonds help financial stability?**
    - Can CoCo be used to insulate taxpayers from bank risk?
    - Should tier 1 ratio be replaced by something better?
    - How to make CoCo discourage bank risk shifting?
    - How to make CoCo trigger event stabilize banks?
    - How can CoCo avoid nationalizing or liquidating banks?

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