Financial Market Failures

Economics 301: Money and Banking

Goals and Learning Outcomes

- Goals:
  - Learn about the types of problems (market failures) that can be inherent in financial markets.
  - Learn about solutions to these problems.
- Learning Outcomes:
  - LO1: Understand and appreciate the importance of financial markets for the overall functioning of the economy.

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Reading and Exercises

- Transaction Costs Chapter 9, pp. 285-286
- Adverse selection Chapter 9, pp. 287-294
- Moral hazard Chapter 9, pp. 295-301
- Greek sovereign debt crisis: "Greek Deal Stirs Moral Hazard Concerns," available on Canvas.
- **Canvas quiz on financial and monetary markets due Wed 11:59 PM**.
  Quizzes are multiple-choice, 10 questions, unlimited attempts allowed, only best score counts
- **Homework/Exercise due Fri 11:59 PM**. We will work together in class on Thursday

Transaction and Information Costs

- **Transaction costs:** Explicit costs carrying out financial transactions. Often times the term means to generally include implicit information costs.
- **Information costs:** Includes time and resources spent investigating risks and profitability of financial investments.
- Imagine you have $500 to save, want to earn interest. Imagine no financial intermediaries.
  - Buy stocks directly from companies. Adequate diversification involves prohibitively high transaction costs for every purchase.
  - Contribute to car loans or home loans.
  - Make direct loans to local small businesses or entrepreneurial projects.
  - Pool money with other savers. Transaction costs in forming contracts.

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Financial System Functions

- Reduce transaction costs.
  - **Economies of scale:** as a financial institution gets larger, there is a reduction in the average transaction cost (transaction cost per dollar of financial investment).
  - Market-wide economies of scale: standardization of legal contracts and computer software, eg: mortgage.
- Risk Sharing
  - Depository institutions spread out risks of defaults across all its depositors.
  - Mutual funds allow for risk reduction through diversification.
  - CDOs and MBSs.

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- Sometimes the presence of asymmetric information is recognized by parties before transactions are conducted
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  - Moral hazard
  - These problems lead to inefficient, but functioning, markets
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Goldman Sachs' CDO

- *Abacus 2007-AC1* was a CDO constructed from 90 MBS's, each constructed from thousands of individual mortgages.
- Only two buyers: other sophisticated financial intermediaries (IKB Deutsche Industriebank and ACA Capital).
- Moody's and S&P gave highest rating to the CDO.
- Goldman Sachs let execs from Paulson & Co. choose the MBS.
- Paulson & Co. chose MBSs with *greatest* probability of default.
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- Mortgages defaulted, CDO lost value.
- Paulson & Co. earned over $1 billion.
- Buyers of CDO lost $1 billion within months.
- Seller of the CDS (ABN Arno) lost almost $1 billion.
- SEC sued Goldman Sachs in April 2010.
- Goldman Sachs settled for $500 million.

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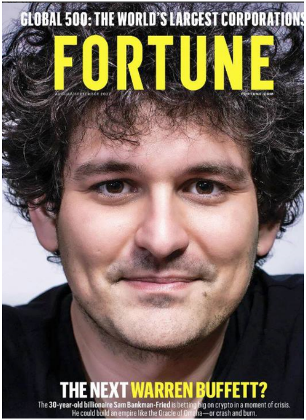
Sam Bankman-Fried FTX and Alameda

- Cryptocurrency "uber genius" Sam Bankman-Fried (SBF) founded a cryptocurrency trading company, FTX Trading Limited; a hedge fund, Alameda Research; and his own cryptocurrency, FFT.
- In Summer 2022, bailed out struggling cryptocurrency trading firms and made billions. SBF became a self-made billionaire with net worth around $22 billion.



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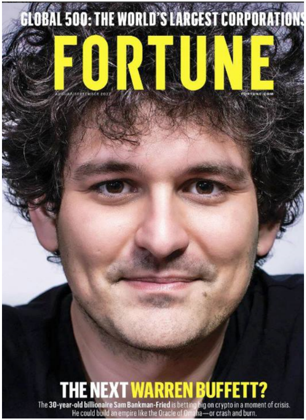

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- FTX lend billions of dollars from customer deposits under the radar to Alameda Research, using FFT as collateral, which in turn invested in less liquid and more risky assets.
- The industry discovered the transactions on Thursday, Nov 10, 2022. Customers pulled out their cryptocurrency with unexpectedly high volume that could not be met.

- Alameda declared bankruptcy on Thurs Nov 10, FTX on Friday Nov 11. SBF woke up on Friday morning with $16 billion in wealth, had $0 by 12 PM.
- Estimated loss of $1-$2 billion of customers' deposits
- SBF arrested and charged with wire fraud, wire fraud conspiracy, securities fraud, securities fraud conspiracy and money laundering

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Crypto Confidence Soars After CEO Defrauds Customers Just Like Real Bank

| Published Friday 12:50PM | Alerts

NEW YORK—In light of FTX Trading Limited's announcement of bankruptcy amidst accusations of mishandling funds, crypto confidence reportedly soared Friday after investors realized that CEO Sam Bankman-Fried defrauded customers just like a real bank. "I actually feel a lot more comfortable investing my hard-earned money knowing

Adverse Selection

- **Adverse selection:** occurs when asymmetric information exists regarding *before* a financial transaction takes place.
- Situation in which it is impossible for lenders to obtain *complete* information about the risk of potential borrowers.
- Lender necessarily makes interest rates too high for borrowers who privately know they have very low risk.
- Interest rates too low for borrowers who know they have relatively high risk.
- Borrowers who choose (*select*) to make loans more highly represented by those with high risks.

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Adverse Selection and Credit Rationing

- In the presence of adverse selection, only relatively more risky borrowers make it to market.
- Interest rates are therefore higher.
- **Credit rationing:** Risk averse lenders may not raise interest rates in fear of attracting worse borrowers, and instead restrict lending.
- With credit rationing, both good and risky borrowers may have difficulty borrowing funds.

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Methods to Reduce Adverse Selection

- Require **collateral**: assets that borrower promises to lender in the event of a default.
  - Passes on risk from lender to borrower
  - Can credibly communicate risk from borrower to lender.
- Communicate **net worth** of firms that are borrowing (difference between firm's assets and liabilities).
  - Firms with a higher net worth have more to lose.

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Moral Hazard

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  - Good outcome: borrower earns a large profit.
  - Bad outcome: borrower would make a loss if paid back full loan, but defaults instead.
  - Moral Hazard: Borrowers only respond to the potential of the good outcome, put inadequate weight on bad outcome, make excessively risky decisions
- Bond markets: borrowers make more risky decisions than if they were using their own funds

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Government Bailouts and Moral Hazard

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Silicon Valley Bank and Signature Bank

- Silicon Valley Bank suffered a classic bank run on Friday March 10, 2023
- Specialized in venture-funded, small-to-medium-sized technology and health technology companies
- Provided loans and deposit accounts for companies, 90% of deposits in accounts over FDIC-insured limit of \$250K
- Falling values of bond portflio $+$ higher demand on deposits $+$ uninsured deposits $\rightarrow$ bank run
- FDIC stepped in and insured all deposits, even the uninsured ones.
- Was this a "bailout"? Who was bailed out? Does this create moral hazard?

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Limiting Moral Hazard

- Methods bank use to reduce moral hazard from providing loans:
  - Require collateral
  - Restrictive covenants
- **Restrictive covenants:** bond contracts that include restrictions on using the borrowed funds
  - Could restrict types of spending. Eg: can only use funds for a specified purpose, not for purchasing new real estate.
  - Require repayment of bond in event net worth falls below a certain level.

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Financial Firms to Reduce Moral Hazard

- **Venture capital firms:** raise funds from investors, and use funds to make investments in small start-up firms.
  - Venture capital firm ensures appropriate behavior of firm by taking a large role in day-to-day operations of the firm.
  - It's own employees serve on Board of Directors for the firm, or are even managers.
- **Private equity firms:** raise funds from investors, take controlling shares of mature firms.
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  - Replace top management

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Reading and Exercises

- Transaction Costs Chapter 9, pp. 285-286
- Adverse selection Chapter 9, pp. 287-294
- Moral hazard Chapter 9, pp. 295-301
- Greek sovereign debt crisis: "Greek Deal Stirs Moral Hazard Concerns," available on Canvas.
- **Canvas quiz on financial and monetary markets due Wed 11:59 PM**.
  Quizzes are multiple-choice, 10 questions, unlimited attempts allowed, only best score counts
- **Homework/Exercise due Fri 11:59 PM**. We will work together in class on Thursday