Financial Market Failures

Economics 301: Money and Banking

Economics 301: Money and Banking Financial Market Failures

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Goals Reading and Exercises

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

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- Transaction Costs Chapter 9, pp. 285-286
- Adverse selection Chapter 9, pp. 287-294
- Moral hazard Chapter 9, pp. 295-301
- Canvas quiz due Wed 11:59 PM. Quizzes are multiple-choice, 15 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 Financial System Functions Asymmetric Information

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Transaction and Information Costs

- **Transaction costs:** Explicit and implicit costs of carrying out financial transactions.
- **Information costs:** Includes time and resources spent investigating potential risks and profitability of financial investments.
- Imagine you have \$500 to save, want to earn interest, and there are no financial intermediaries.
 - Buy stocks directly from companies. Adequate diversification involves significant 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, 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 (problematic securities at the height of the 2008-2009 financial crisis).
 - CLOs (collateralized loan obligations), CMBSs (commercial mortgage-backed securities)

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- Asymmetric information: situation when there are two parties involved in some sort of transaction, and one party does not have sufficient information about the other party to make an appropriate decision.
- Sometimes the presence of asymmetric information is recognized by parties before transactions are conducted
 - Adverse selection
 - Moral hazard
- When recognized in advance, can lead to inefficient, but functioning, markets.
- When only recognized in hindsight, can lead to financial market reversals and financial crises.

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Transaction and Information Costs Financial System Functions Asymmetric Information

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- 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.
- Paulson & Co. then purchased Credit Default Swaps (CDSs) on the CDO.

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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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Goldman Sachs' SEC Lawsuit

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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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- 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 - 2000

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Adverse Selection in Loanable Funds Markets Credit Rationing Methods to Reduce Adverse Selection

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Adverse Selection

- Adverse selection: occurs when asymmetric information exists regarding the state of affairs *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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- 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 only risky borrowers, hoping this attracts a pool that includes less risky borrowers, but limit the amount of funds to limit exposure to risk.
- With credit rationing, both good and risky borrowers may have difficulty borrowing funds.

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Methods to Reduce Adverse Selection

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• 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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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 in Loanable Funds Markets Limiting Moral Hazard Financial Firms to Reduce Moral Hazard

Moral Hazard

- **Moral Hazard:** occurs when asymmetric information exists regarding affairs that happen *after* the financial transaction takes place.
- The presence of asymmetric information is still identified before the transaction takes place.
- Ability to default on a loan creates asymmetric payouts for borrowers
 - Good outcome: borrower earns a large profit, pays back the loan
 - Bad outcome: borrower would make a loss if paid back full loan, but defaults instead.
 - Moral Hazard: Problem when borrowers only respond to the potential of the good outcome, put inadequate weight on bad outcome, and 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

- Government bailout: When government provides financial assistance to failing companies
- Poorly defined as the definition does not distinguish between insolvent firms and illiquid firms
- **Insolvent firm:** firm that has negative net worth, and is unable to pay back its debts.
- Illiquid (but solvent) firm: firm that has positive net worth, but with illiquid assets, it is unable to pay debts in the short run.
- Bailouts to insolvent firms create moral hazard: Incentive to make risky, but potentially profitable, decisions.
- Do "bailouts" to illiquid firms create 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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Methods to Reduce Moral Hazard

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Require collateral

- **Restrictive covenants:** bond contracts that include restrictions on borrowers
 - Could restrict types of spending: Only use funds for a specified purpose
 - 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.
 - Venture capital's employees serve as managers of borrowing firm, and/or serve on Board of Directors for the borrowing firm
- **Private equity firms:** raise funds from investors, take controlling shares of *mature firms.*
 - Serve on Board of Directors
 - Replace top management

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Reading and Exercises

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- Transaction Costs Chapter 9, pp. 285-286
- Adverse selection Chapter 9, pp. 287-294
- Moral hazard Chapter 9, pp. 295-301
- Canvas quiz on financial due Wed 11:59 PM.
- Homework/Exercise due Fri 11:59 PM. We will work together in class on Thursday.