Financial Economics ECON2103

Lecture 8:

Financial Crises

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Introduction

The global financial crisis in the late 2000s revealed critical vulnerabilities in the global financial system and caused widespread economic turmoil to the world economy. In this lecture, we will explore the origins, causes, and consequences. By understanding its complexities, we can study lessons from the crisis.

Agenda

Introduction

Topic one: Bank Failure and Bank Runs

Topic two: What is a Financial Crisis?

Topic three: History of Financial Crises

Topic four: Global Financial Crisis

Summary

Learning Objectives

- Study about financial crises and its dynamics.
- Define a bank run.
- Examine the historical facts about the Global Financial Crisis 2007 –2009 and European Sovereign Debt Crisis.

Topic one

What is a financial crisis?

Nobel Prize in 2022

https://www.abc.net.au/news/2022-10-11/us-trio-including-ex-fed-chief-bernanke-win-economics-nobel/101520940

- The three economists won for having **“significantly improved our understanding of the role of banks ... particularly during financial crises,”** and **“why avoiding bank collapses is vital.”**

Source: *Anders Wiklund / TT News Agency via AP*

Nobel Prize: Research on Financial Crises

- Ben Bernanke's extensive research on the Great Depression.
  - When nearly half of all US banks failed in the early 1930s, it took the financial system a long time to rebuild its lending capacity.
  - In the US, 1860 banks failed between August 1931 and January 1932 alone.
  - He argues this is a major reason that the Great Depression persisted, on and off, for a decade.
- Diamond and Dybvig (1983): bank run as a coordination failure.

What is a Financial Crisis?

- A financial crisis occurs when there is a particularly large disruption to information flows in financial markets, with the result that financial frictions increase sharply, and financial markets stop functioning.
- The Mother of All Financial Crises: The Great Depression
- This event was brought on by:
  - Stock market crash
  - Bank panics
  - Continuing decline in stock prices

Dynamics of Financial Crises

- Stage One: Initiation of a Financial Crisis
  - Credit Boom and Bust: Mismanagement of financial liberalization/innovation leading to asset price boom and bust
  - Asset-price Bubbles and Bursts
  - Deleveraging: Paying down debt, selling assets to reduce liabilities, or restructuring existing debt obligations to lower interest rates or extend repayment periods.
  - Increase in Uncertainty
- Stage two: Banking Crisis

Bank Failure

- Bank failure happens when a bank is unable to meet its obligations to pay its deposits and other creditors.
- If a bank fails, depositors have to wait until the bank is liquidated.
- Further, they most likely will only receive a fraction of their deposits.

Banking Crises Around the World (1800 – 2009)

Country	Number of banking crises since independence or 1800	Number of banking crises since 1945	Share of years in a banking crisis since independence or 1800
Argentina	9	4	8.8
Brazil	11	3	9.1
Canada	8	1	8.5
China	10	1	9.1
France	15	1	11.5
Germany	8	2	6.2
Japan	8	2	8.1
Russia	2	2	1.0
South Africa	6	2	6.3
United Kingdom	12	4	9.2
United States	13	2	13.0

Source: Adapted from Reinhart, Carmen M. and Kenneth Rogoff (2009), This Time is Different: Eight Centuries of Financial Folly, Princeton, NJ: Princeton University Press.

Topic two

Bank Failure and Bank Runs

Bank Runs & Asymmetric Information

- With no safety nets, depositors stand to lose a lot if a bank fails.
- On the other hand, they do not know how well a bank is doing, or if a manager is taking on too much risks: **asymmetric information**!
- If depositors see any evidence that a bank is not doing well, they would try to withdraw deposits to protect themselves
- Depositors have an incentive to be the first to **"run"** to the bank.
- The need for deposit insurance:
    - Short circuits bank failures and contagion effect

Game Theory

- The first column shows strategies which are available for Player 1
- The first row shows strategies which are available for Player 2.
- The first number in each parenthesis shows payoff for Player 1.
- The second number shows payoff for Player 2.

A best response is a strategy such that in response to the other player's strategy, there is no incentive to deviate from that strategy.
A Nash equilibrium is a pair of strategies such that both players take a best response to each other's strategy.

	Strategy A	Strategy B
Strategy A	(1, 1)	(1, 2)
Strategy B	(2, 1)	(2, 2)

Bank Run & Coordination Failure

- Two-person coordination game (Diamond and Dybvig, 1983)

B

A

	Keep Deposit	**Withdraw**
Keep Deposit	(100,100)	(0,40)
Withdraw	(40,0)	(20,20)

Table: (A's payoff, B's payoff)

Q1. If player A chooses "Withdraw," what does A get when player B chooses "Keep Deposit"?

Q2. Nash Equilibrium in Coordination Failure

- Nash equilibrium is a pair of strategies such that for all players, given the other player's, there is no incentive to deviate from the current strategy.

B

A

	Keep Deposit	**Withdraw**
Keep Deposit	(100,100)	(0,40)
Withdraw	(40,0)	(20,20)

Table: (A's payoff, B's payoff)

Q2. There are two pure strategy Nash equilibrium. One is (A's strategy, B's strategy) = (Keep, Keep). Can you find the other Nash equilibrium?

Topic three

Historic Examples of Financial Crises

Japan and The Financial Crisis

- The start of Lost decades: Burst of Asset Bubbles.
- The Bank for International Settlements (BIS) standard sets a requirement that international banks have to keep “safe assets” relative to their total assets, in order to join international markets.
- BIS standards were introduced at two steps, 1991 and 1993.
- Nippon Credit Bank and Hokkaido Takushoku Bank consequently revealed that they could not meet BIS standard.
- The issue of bad-performing loans came out.

Crisis in Emerging Markets

- Asian crises in the 1997– 1998 (in Hong Kong, Indonesia, South Korea, Malaysia, the Philippines, and Thailand).
- Argentina’s 2001 collapse.
  - The economy shrank by 28 percent from 1998 to 2002.
  - It caused widespread unemployment, riots, the fall of the government, a default on the country's foreign debt.

Figure: Bank Run during the Great Depression (1929 – 1939)

Source: *Bettmann/Getty Images*

Figure: Northern Rock Bank Run, UK (2007)

Source: *Getty Images*

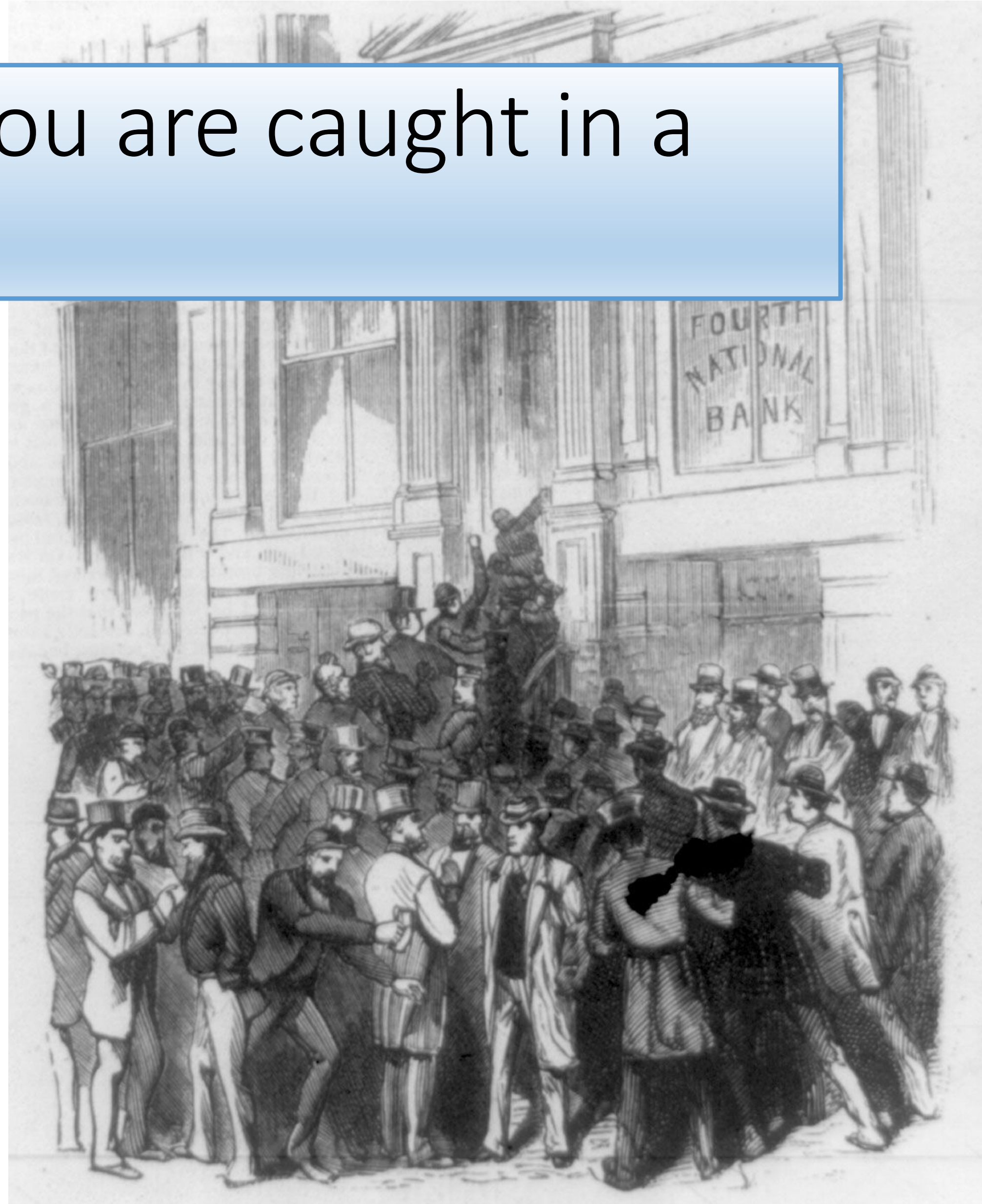
Figure: Bank queue in Yangon, Myanmar (2021)

Source: *Reuters*

Figure: Russian bank run in Czech Republic (2022)
Source: *MICHAL CIZEK | AFP via Getty Images*

Q. What would you do if you are caught in a bank run?

- Laugh at everyone queueing because they are wasting time;
- Follow the crowd and run to banks;
- Pray to a higher being that your deposit will be fine; or
- Why bother running? Bank runs don’t exist



Source: *Britannica*

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Toyokawa Shinkin 1973

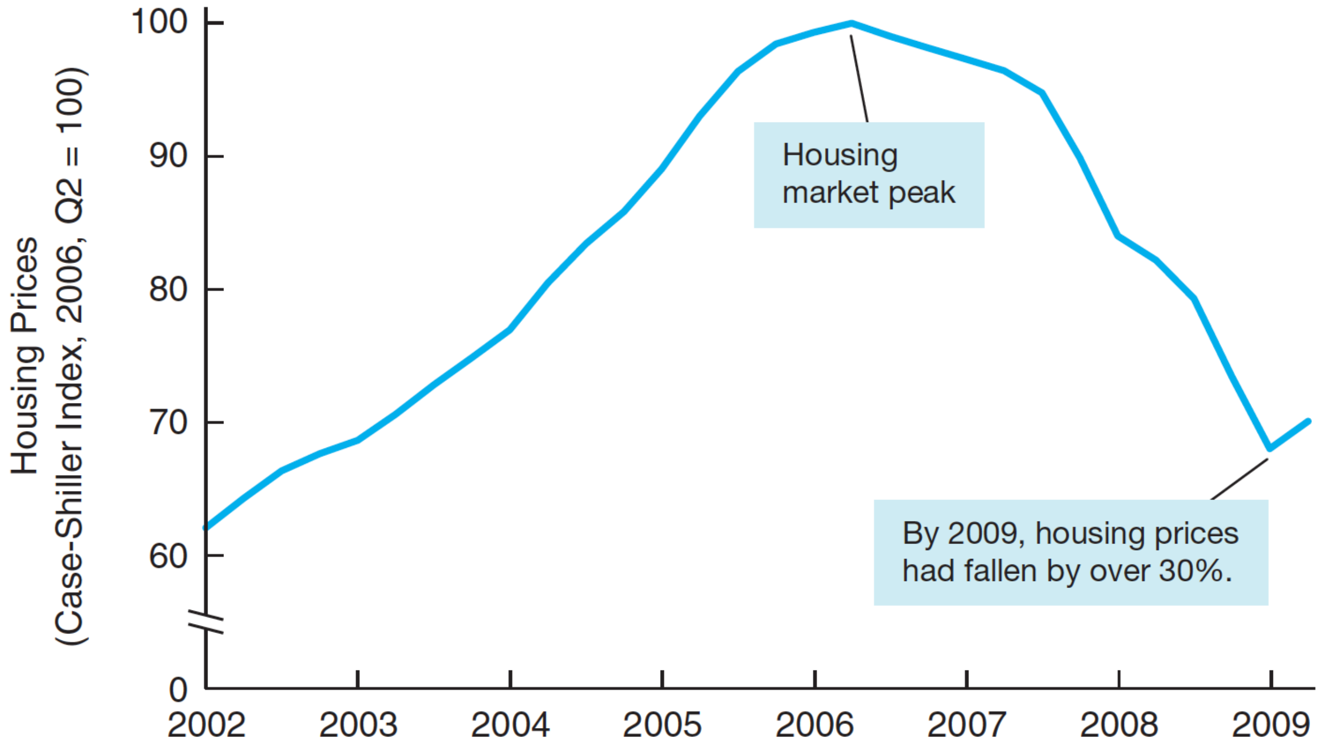
What Happened?

- In December 1973, Toyokawa Shinkin Bank suffered a 2 billion yen withdrawal (AUD$4.8 million).
- It comes from a rumor that "Toyokawa Shinkin Bank will go into bankruptcy".
- Police investigation traced it back to an innocent conversation between three high school students.
- The comment was that working at the Toyokawa Shinkin Bank is dangerous because of the robbery quickly becomes the rumor that the bank is in danger of failing.

Topic four

Global Financial Crisis

Figure 4 Housing Prices and the Financial Crisis of 2007–2009

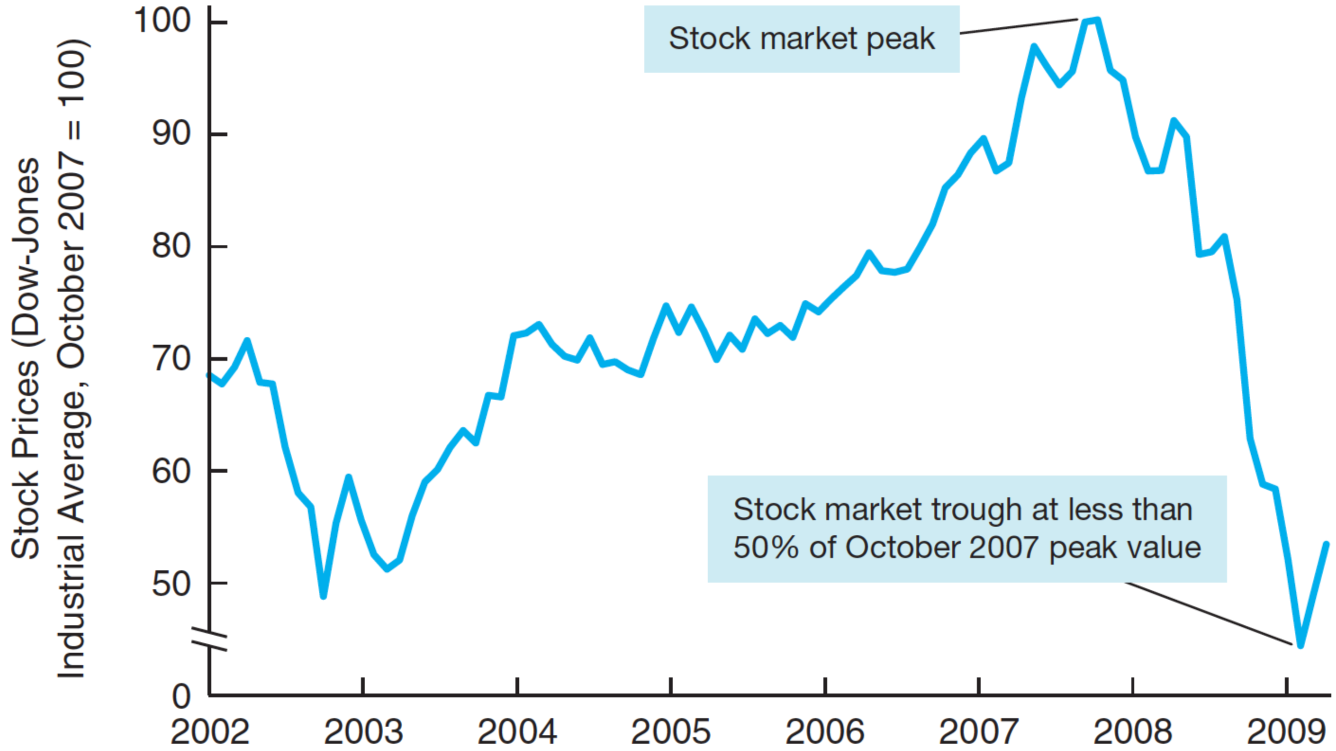


Source: Case-Shiller U.S. National Composite House Price Index from Federal Reserve Bank of St. Louis FRED database: http://research.stlouisfed.org/fred2/.

The Global Financial Crisis: 2007-2008

- High-profile firms fail
  - Bear Stearns (March 2008) -> JP Morgan
  - Fannie Mae and Freddie Mac (July 2008)
  - Lehman Brothers, Merrill Lynch, AIG, Reserve Primary Fund (mutual fund) and Washington Mutual (September 2008)
- The stock market crash gathered pace in the fall of 2008, with the week beginning October 6, 2008, showing the worst weekly decline in U.S. history.

Figure 5 Stock Prices and the Financial Crisis of 2007–2009



Source: Dow-Jones Industrial Average (DJIA). Global Financial Data: http://www.globalfinancialdata.com/index_tabs.php?action=detailedinfo&id=1165.

The Global Financial Crisis: 2008 - 2009

- Surging interest rates faced by borrowers led to sharp declines in consumer spending and investment.
- The unemployment rate shot up, going over the 10% level in late 2009 in the midst of the "Great Recession," the worst economic contraction in the United States since World War II.

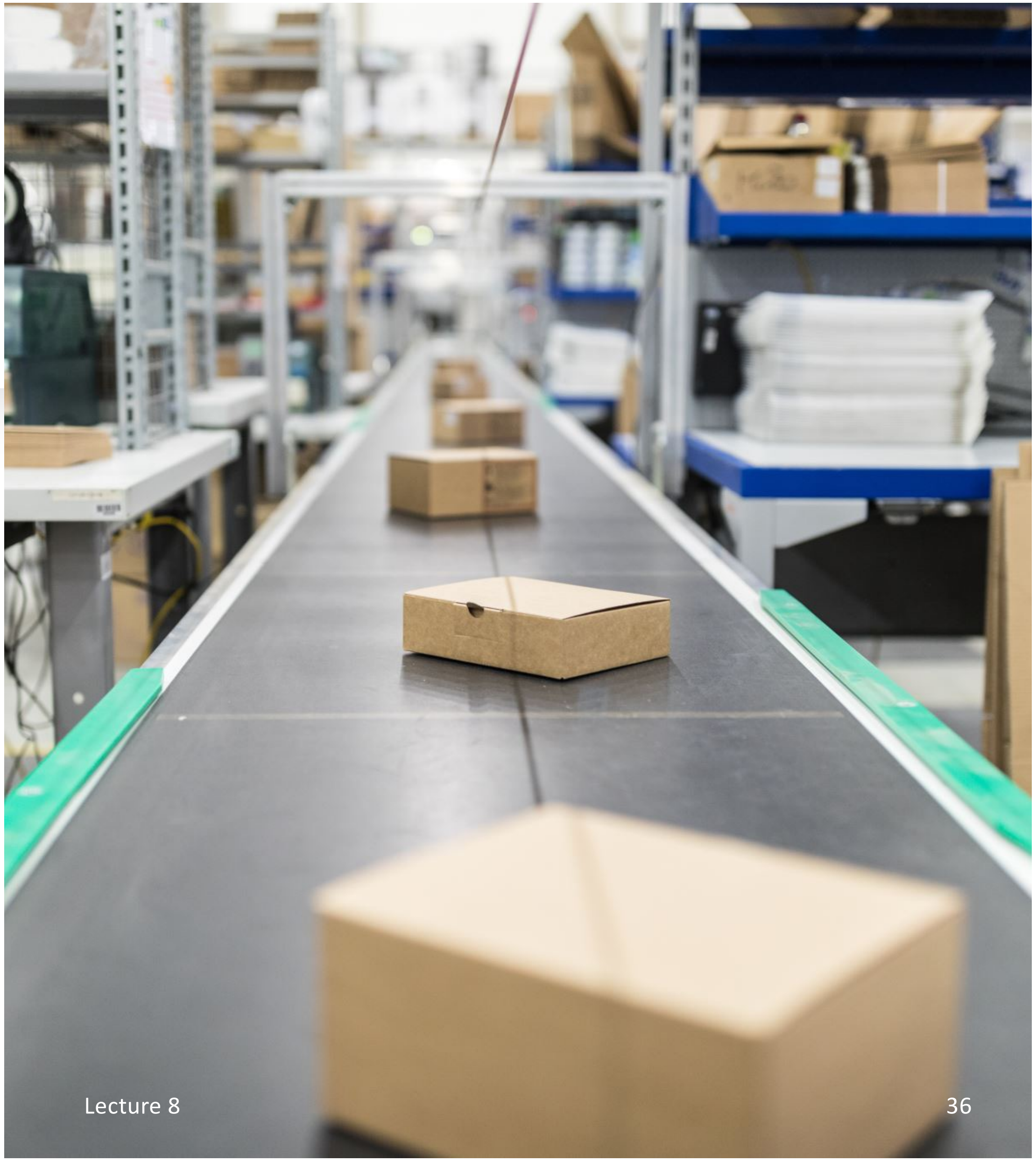
Securitization and the Shadow Banking System

- Securitization is the process of bundling small and otherwise illiquid financial assets (such as residential mortgages, auto loans, and credit card receivables) into marketable capital market securities.
- Securitization facilitated the growth of the shadow banking system by creating investment opportunities and complex financial products.

Securitization

Securitization is also characterized as an originate-to-distribute business model:

Loan origination → servicing → bundling → distribution



Lehman Shock

- One notable example of a shadow banking entity that faced significant challenges and played a role in the global financial crisis is Lehman Brothers.
- On September 15, 2008, Lehman Brothers filed for bankruptcy.
- "Financial Meltdown Documentary - Could it all happen again?"

https://www.youtube.com/watch?v=ZtWZvm76L8g

(37:53 – 41:30)

The Weekend (Sep. 13 - 14, ‘08) of Hank Paulson (Secretary of the Treasury)

The European Sovereign Debt Crisis

- Although the subprime mortgage market problem began in the United States, the first indication of the seriousness of the crisis began in Europe.
- The increase in budget deficits that followed the financial crash of 2007-2009 led to fears of government defaults and a surge in interest rates.
- The sovereign debt crisis, which began in Greece, moved on to Ireland, Portugal, Spain and Italy.
- The stresses and related events continue to threaten the viability of the Euro.

Figure: Greek Sovereign Debt Crisis (2015)

Source: *AFP Photo/Sakis Mitrolidis*

Summary

The global financial crisis has left us with invaluable lessons. Global cooperation and proactive monitoring are essential to prevent future crises. We studied the dynamics of financial crises and regulations to prevent further crises.

Feedback for Topic 8

- https://padletuq.padlet.org/Shino/econ2103-shared-thoughts-topic-8-kwjxzz42m9v5e7vz

Thank You

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Source

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