

ECONOMY-1

SCENE

Two banks, central bank, each with 10 equity initially

- There are 2 Banks (Bank A and Bank B) and 1 Central Bank (CB). Each bank begins with 10 in equity
- Central Bank has accounts of Bank A and Bank B

ACCOUNTING

Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for Bank B

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Reserves (or Assets)	20	Account for Bank A	10
		Account for Bank B	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

Central Bank (CB) control's and regulates the banks. The CB acts as bank's banker.

There are two types of assets: financial and non-financial. Non-financial assets include resources such as the bank's buildings, employees, and other tangible and intangible assets. However, to operate as a bank, financial equity—representing the bank's financial ownership and capital—is essential.

SCENE-1

SCENE

Individual I1 holds 100 with Bank A; I2 holds 0

- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account with Bank A
- There's an individual I2, who also has an account with Bank A (0 in his account)

ACCOUNTING

Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I1	100
Cash Reserves	100	Equity	10
Total Assets	110	Total Liabilities + Equity	110

Balance Sheet for Bank B

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

It may feel so that new money has been created by I1's deposits, however, deposits do not create new money. This deposit by I1 was in fact part of money in circulation and it was just deposited in the bank. In the initial condition where we setup this economy, we did not show I1's balance sheet. It would have contained this 100 as cash. So, this deposit did not create any new money.

E1 SCENE-1 EXT. 1.1

SCENE

I1 withdraws 50 cash, spends it with I2; I2 keeps cash

- I1 takes 50 cash out from his account, and spends to buy items from I2, who does not deposit the cash back to his account with Bank A

ACCOUNTING

Balance Sheet for Individual I1

Assets	Amount	Liabilities and Equity	Amount
Account at Bank A	50	-	-
Cash	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Balance Sheet for Individual I2

Assets	Amount	Liabilities and Equity	Amount
Cash	50	-	-
Account at Bank A	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I1	50
Cash Reserves	50	Deposits from I2	0
Total Assets	60	Total Liabilities + Equity	60

Balance Sheet for Bank B

(No changes, as the transaction does not involve Bank B.)

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

When I1 took out cash and it wasn't deposited back, notice how its lost from being tracked financially. It's out of books of CBs and banks.

The assets in the banks reduce, thus, going by the money multiplier model, this restricts bank's ability to give out loans

E1 SCENE-1 EXT. 1.2

SCENE

I1 withdraws 50, pays I2; I2 deposits back in Bank A.

- I1 takes 50 cash out from his account, and spends to buy items from I2, who deposits the cash back to his account with Bank A

ACCOUNTING

Balance Sheet for Individual I1

Assets	Amount	Liabilities and Equity	Amount
Account at Bank A	50	-	-
Cash	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Balance Sheet for Individual I2

Assets	Amount	Liabilities and Equity	Amount
Account at Bank A	50	-	-
Cash	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Updated Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I1	50
Cash Reserves	100	Deposits from I2	50
Total Assets	110	Total Liabilities + Equity	110

Balance Sheet for Bank B

(No changes, as the transaction does not involve Bank B.)

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

As can be observed, this doesn't change anything at net but is a simple reshuffle in bank's balance sheet.

SCENE-2

SCENE

I1 holds 100 with Bank A; I2, 0 with Bank B; A, B have 10 reserves in Central Bank.

- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account with Bank A
- There's an individual I2, has an account with Bank B (0 in his account)
- There's also a Central Bank, that has accounts of A and B, with each of them having 10 reserves in CB

ACCOUNTING

Balance Sheet for Individual I1

Assets	Amount	Liabilities and Equity	Amount
Account at Bank A	100	-	-
Total Assets	100	Total Liabilities + Equity	100

Balance Sheet for Individual I2

Assets	Amount	Liabilities and Equity	Amount
Account at Bank B	0	-	-
Total Assets	0	Total Liabilities + Equity	0

Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I1	100
Cash Reserves	100	Equity	10
Total Assets	110	Total Liabilities + Equity	110

Balance Sheet for Bank B

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I2	0
Cash Reserves	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

None

E1 SCENE-2 EXT. 1.1

SCENE

I1 withdraws 50, pays I2; I2 deposits into Bank B.

- I1 takes 50 cash out from his account, and spends to buy items from I2, who deposits the cash back to his account with Bank B

ACCOUNTING

Balance Sheet for Individual I1

Assets	Amount	Liabilities and Equity	Amount
Account at Bank A	50	-	-
Cash	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Balance Sheet for Individual I2

Assets	Amount	Liabilities and Equity	Amount
Account at Bank B	50	-	-
Cash	0	-	-
Total Assets	50	Total Liabilities + Equity	50

Updated Balance Sheet for Bank A

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I1	50
Cash Reserves	50	Equity	10
Total Assets	60	Total Liabilities + Equity	60

Updated Balance Sheet for Bank B

Assets	Amount	Liabilities and Equity	Amount
Account at Central Bank	10	Deposits from I2	50
Cash Reserves	50	Equity	10
Total Assets	60	Total Liabilities + Equity	60

Balance Sheet for the Central Bank

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

Here, there's re-distribution of money amongst the banks (A and B)

E1 SCENE-2 EXT. 1.2

SCENE

I1 transfers 10 electronically to I2; Bank A debits, Bank B credits.

- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account with Bank A
- There's an individual I2, has an account with Bank B (0 in his account)
- I1 buy items from I2 electronically worth 10 (say, through NEFT, IMPS etc.)

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	0	Deposit owed to I1	90
Cash	100	Equity	10
Total Assets	100	Total Liabilities + Equity	100

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	20	Deposit owed to I2	10
Cash	0	Equity	10
Total Assets	20	Total Liabilities + Equity	20

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve deposits from Bank A	0	Liability to Bank A	0
Reserve deposits from Bank B	20	Liability to Bank B	20
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

The accounts of banks with the central banks are used to settle interbank transactions. This could be carried out at the end of the day and settled on a netted basis, however, at the end of the day books of the banks should balance out.

This scenario also helps us understand the role of reserves, that is, to settle interbank transactions or essentially to settle transactions where money moves out of any specific bank. We saw, internal movements within the bank are no trouble for the bank, however, large withdrawals put pressure on reserves of the bank

Note there, that if I1 would have wanted to transfer any amount greater than 10, then, either of the scenarios would play out,

- A. Bank A would convert its cash into reserves
- B. Bank A would utilize its equity to convert into reserves
- C. For central bank and this model, cash and reserves are equivalent, thereby, making reserves equivalent to 110
- D. If the withdrawal exceeds this, then bank would be bankrupt

SCENE-3

SCENE

Bank A and B: 10 equity each; I1: 100 deposited in Bank A; I3: needs 50 loan from Bank A;
Central Bank: A and B hold 10 reserves each.

- Bank A and B has 10 in equity
- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account (deposited cash) with Bank A
- There's also a Central Bank, that has accounts of A and B, with each of them having 10 reserves in CB

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed (I1)	100
Cash	100	Equity	10
Total Assets	110	Total Liabilities + Equity	110

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed	0
Cash	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

None

E1 SCENE-3 EXT. 1.1

SCENE

Bank A and B: 10 equity each; I1: 100 deposited in Bank A; I3: seeks 50 loan from Bank A;
Central Bank: A and B hold 10 reserves each.

- Bank A and B has 10 in equity
- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account (deposited cash) with Bank A
- There's an individual I3, he needs 50 in loan from Bank A
- There's also a Central Bank, that has accounts of A and B, with each of them having 10 reserves in CB

ACCOUNTING

A's balance sheet (unbalanced, cash converted to electronic for loan)

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed (I1)	100
Cash	50	Deposits owed (I3)	50
Loan to I3	50	Equity	10
Total Assets	110	Total Liabilities + Equity	110

Bank B's Balance Sheet (No Change)

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed	0
Cash	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Central Bank's Balance Sheet (No Change)

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

In the context of the money multiplier model, if a bank lends out a fraction of deposited cash, the scenario creates accounting inconsistencies. Specifically, the balance sheet of Bank A becomes unbalanced. This is because when Bank A lends out 50 in cash, it must physically hand over the cash to the borrower (I3). It cannot simply convert the cash into an electronic deposit and record it as a liability of 50 in I3's account.

If Bank A were to attempt this conversion—turning 50 in cash into 50 in electronic reserves and lending it out—it would decrease its reserves while simultaneously increasing its deposits. This imbalance makes the accounting invalid. Instead, Bank A must lend the 50 in cash directly to I3, which leaves the bank's premises as physical cash.

Under these circumstances, even interbank transfers would need to be conducted in cash. Consider this: if I3 were to deposit the cash in Bank B, and Bank B decided to lend it out, it would also need to do so in cash. For this to happen, Bank B would require 50 in cash from the interbank market, necessitating a transfer from Bank A in cash.

According to the textbook money multiplier model, the economy operates primarily in physical cash. Loans are disbursed in cash, leaving the bank. In terms of double-entry bookkeeping, this process reduces reserves (an asset) while increasing loans (another asset), thereby maintaining balance without affecting the liability side. Within this

framework, money is created through deposits. This reliance on cash ensures that the model's assumptions remain consistent with the realities of lending and interbank transactions.

To facilitate electronic money, the banking system would need to expand its balance sheet. This expansion involves simultaneously increasing deposits on the liability side and loans on the asset side. This process reflects the creation of money in a digital form.

Why do we need deposits then?

Deposits are essential because they provide a cost-effective way for banks to accumulate reserves, which are crucial for participating in the interbank market. Additionally, banks pay interest on deposits to maintain their deposit base. A decline in deposits would lead to a corresponding reduction in assets (the balancing item against deposits), which could jeopardize the bank's stability. Banks must maintain positive equity to avoid bankruptcy.

A reduction in assets was a key factor in the failure of Silicon Valley Bank. Silicon Valley Bank (SVB) faced a crisis because it held a large portion of its assets in long-term bonds. When interest rates rose, the market value of these bonds declined due to the inverse relationship between bond prices and interest rates. This loss in asset value reduced SVB's equity buffer. When depositors began withdrawing funds, SVB was forced to sell these bonds at a loss to meet withdrawal demands, further deteriorating its financial position and leading to its collapse.

E1 SCENE-3 EXT. 1.2

SCENE

**Bank A and B: 10 equity each; I1: 100 deposited in Bank A; I3: takes 50 cash loan from Bank A;
Central Bank: A and B hold 10 reserves each**

- Bank A and B has 10 in equity
- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account (deposited cash) with Bank A
- There's an individual I3, he needs 50 in loan from Bank A (takes out cash loan)
- There's also a Central Bank, that has accounts of A and B, with each of them having 10 reserves in CB

ACCOUNTING

Took out cash loan

Updated Bank A Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed (I1)	100
Cash	50	Equity	10
Loan to I3	50		
Total Assets	110	Total Liabilities + Equity	110

Bank B's Balance Sheet (No Change)

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed	0
Cash	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Central Bank's Balance Sheet (No Change)

Assets	Amount	Liabilities and Equity	Amount
Government Securities	20	Bank A Reserves	10
		Bank B Reserves	10
Total Assets	20	Total Liabilities + Equity	20

OBSERVATION

So, this is how I3 will take out a cash loan. It would be lent out by Bank A to I3 and not be written as any deposit.

SCENE-4

SCENE

**Bank A and B: 10 equity each; I1: 100 deposited in Bank A; I3: takes 50 cash loan from Bank A;
Central Bank: A and B hold 10 reserves each**

- Bank A and B has 10 in equity
- There's an individual I1, who has an account with Bank A
- I1 has 100 in his account (electronic deposit) with Bank A
- There's an individual I3, he needs 50 in loan from Bank A
- There's also a Central Bank, that has accounts of A and B. A has reserves (10) and B has (10)
- Modern Money Creation

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	110	Deposits owed (I1)	100
Loan to I3	50	Deposits owed (I3)	50
		Equity	10
Total Assets	160	Total Liabilities + Equity	160

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed	0
Cash	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	120	Bank A Reserves	110
		Bank B Reserves	10
Total Assets	120	Total Liabilities + Equity	120

OBSERVATION

Loans are created through mere accounting entries, enabling banks to generate new money. This process is independent of the amount of deposits the bank holds and does not directly deplete reserves, as seen in the money multiplier model. Instead, using double-entry bookkeeping, banks create money by recording a loan as an asset and a corresponding deposit as a liability.

If I3 withdraws the loan amount in cash, the bank's reserves at the central bank decrease (effectively converting reserves to cash), and I3's deposit decreases accordingly, replaced by cash in I3's possession. However, if I3 spends the loan electronically, reserves would still decrease, as would the corresponding deposits, but this would occur via transactions in the interbank market. This highlights how reserves facilitate cash withdrawals and interbank settlements, rather than directly limiting loan creation.

ECONOMY-2

SCENE-1

SCENE

Three banks: A, B (10 equity each), and C (50 equity); Central Bank holds accounts for A, B, and C.

I1: 100 deposit in Bank A; I2: 0 deposit in Bank B; Assume cash and reserves are equivalent.

- There are 3 Banks (Bank A, Bank B and Bank C) and 1 Central Bank (CB). Bank A and B begins with 10 in equity. Bank C begins with 50 equity
- Central Bank has accounts of Bank A, Bank B and Bank C
- Individual I1 has account in Bank A with 100 deposit, Individual I2 has account in Bank B with 0 deposit
- We will assume cash and reserve are equivalent

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed (I1)	100
Cash	100	Equity	10
Total Assets	110	Total Liabilities + Equity	110

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	10	Deposits owed (I2)	0
Cash	0	Equity	10
Total Assets	10	Total Liabilities + Equity	10

Bank C's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	50	Deposits owed	0
Cash	0	Equity	50
Total Assets	50	Total Liabilities + Equity	50

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	70	Bank A Reserves	10
		Bank B Reserves	10
		Bank C Reserves	50
Total Assets	70	Total Liabilities + Equity	70

OBSERVATION

Its similar to 2 bank scenario.

SCENE

I1 transfers 30 to I2

- Individual I2 transfers 30 to I2 (i.e., interbank movement of 30 from Bank A to Bank B)

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	$10 - 30 = -20$	Deposit owed to I1	$100 - 30 = 70$
Cash	0	Equity	10
Total Assets	70	Total Liabilities + Equity	70

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	$10 + 30 = 40$	Deposit owed to I2	$0 + 30 = 30$
Cash	0	Equity	10
Total Assets	40	Total Liabilities + Equity	40

Bank C's Balance Sheet (No Change)

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	50	Deposits owed	0
Cash	0	Equity	50
Total Assets	50	Total Liabilities + Equity	50

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	70	Bank A Reserves	$10 - 30 = -20$
		Bank B Reserves	$10 + 30 = 40$
		Bank C Reserves	50
Total Assets	70	Total Liabilities + Equity	70

OBSERVATION

Observe that Bank A, at the end, has negative reserves and this would need to be settled. The possible resolutions would be

1. Borrowing from Other Banks:

- Bank A can approach Bank B or Bank C to borrow in the interbank market.
- This borrowing is typically done at the **interbank interest rate** (e.g., LIBOR, SOFR, or an equivalent).

2. Selling Assets:

- If Bank A holds marketable securities (e.g., government bonds or other investments), it can sell these assets to raise funds and replenish its reserves.

3. Central Bank Lending:

- As a last resort, Bank A can borrow directly from the Central Bank through mechanisms like the **discount window** or other central bank facilities.

E2 SCENE-1 EXT. 1.2

SCENE

I1 transfers 30 to I2, prompting interbank settlement

- Individual I2 transfers 30 to I2 (i.e., interbank movement of 30 from Bank A to Bank B)
- Interbank settlement

ACCOUNTING

Bank A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	$10 - 30 + 20 = 0$	Deposits owed (I1)	70
Cash	100	Interbank Loan (from Bank C)	20
Total Assets	100	Total Liabilities + Equity	100

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	$10 + 30 = 40$	Deposits owed (I2)	30
Cash	0	Equity	10
Total Assets	40	Total Liabilities + Equity	40

Bank C's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	$50 - 20 = 30$	Deposits owed	0
Interbank Loan (to Bank A)	20	Equity	50
Total Assets	50	Total Liabilities + Equity	50

Central Bank's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	70	Bank A Reserves	0
		Bank B Reserves	40
		Bank C Reserves	30
Total Assets	70	Total Liabilities + Equity	70

OBSERVATION

Note, Bank A borrowed from Bank C. This is the interbank market. The settlement rates here are managed by the central bank.

ECONOMY-3

SCENE-1

SCENE

NBFI A and Bank B. Bank and NBFI has 10 equity; I1: 100 deposited in Bank B, I2: 100 deposited in NBFI A
Central Bank: Bank B hold 10 reserves each

- NBFI A and Bank B have equity 10
- NBFI A and Bank B gets 100 deposit
- Central Bank has account of Bank B with reserve as 10
- I1 deposits 100 in Bank B (increasing its reserves) and I2 deposits 100 in NBFI A (increasing its assets like Govt secs, Corporate bonds and other investments)

ACCOUNTING

Bank B's Balance Sheet (After I1)

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	110	Deposits owed	100
Cash	0	Equity	10
Total Assets	110	Total Liabilities + Equity	110

NBFI A's Balance Sheet (After I2)

Assets	Amount	Liabilities and Equity	Amount
Government Securities	44	Deposits owed	100
Corporate Bonds	33		
Other Financial Assets	33	Equity	10
Total Assets	110	Total Liabilities + Equity	110

OBSERVATION

There are different types of NBFIs,

- **Deposit-Taking NBFIs:** Some NBFIs are allowed to accept deposits, such as deposit-taking microfinance institutions or certain financial cooperatives. These NBFIs often serve specific communities or provide specialized financial services. Examples include:
 1. Shriram Transport Finance Company Limited
 2. Mahindra Finance
 3. Bajaj Finance Limited (specific deposit-taking branches)
 4. Sundaram Finance Limited
- **Non-Deposit-Taking NBFIs:** Many NBFIs do not accept deposits directly. Instead, they offer other financial services like loans, investments, leasing, insurance, or asset management. Examples,
 1. **Aditya Birla Finance Limited**
 2. **L&T Finance Holdings**
 3. **Tata Capital Financial Services Limited**
 4. **Muthoot Finance Limited** (primarily focused on gold loans)

Banks and NBFIs have somewhat different balance sheets,

1. Regulatory Environment

- **Banks:** Heavily regulated by central banks or monetary authorities. They must adhere to strict regulations, including minimum capital requirements and liquidity coverage ratios (e.g., Basel III standards). These regulations restrict the types and amounts of assets banks can hold.
- **NBFIs:** Subject to less stringent regulations than banks, which allows them more flexibility in their asset holdings. However, they cannot engage in activities like demand deposit acceptance, which are exclusive to banks.

2. Types of Assets Held

Banks:

- **Loans and Advances:** A significant portion of their assets is in the form of loans (personal, commercial, mortgages, etc.).
- **Government Securities:** Often required to hold a portion of their assets in government bonds or treasury bills to meet reserve requirements.
- **Interbank Assets:** Includes placements with other banks or central banks.
- **Cash and Equivalents:** Maintains high levels of liquid assets for operational needs and regulatory compliance.

NBFIs:

- **Loans and Advances:** They may also offer loans but focus on specialized sectors like microfinance, leasing, or consumer credit.
- **Investment in Securities:** Can hold a variety of securities, including corporate bonds, equities, and mutual funds.

- **Real Estate and Infrastructure:** NBFIs may invest directly in real estate or infrastructure projects.
- **Specialized Financial Instruments:** Asset-backed securities (ABS), mortgage-backed securities (MBS), or other structured products.

3. Risk Appetite and Business Model

- **Banks:** Tend to prioritize liquidity and safety due to their role in the payment system and the need to protect depositor funds. This limits their exposure to high-risk assets.
- **NBFIs:** Often have a higher risk tolerance. They are more focused on specific market niches and may hold riskier, higher-yielding assets, such as venture capital or high-yield corporate bonds.

4. Sources of Funding

- **Banks:** Funded primarily by customer deposits, which are highly liquid and must be safeguarded. This affects the composition of their assets, as they need to ensure liquidity and stability.
- **NBFIs:** Rely on equity, debt issuance, or wholesale funding, which gives them more flexibility but also more risk in choosing asset types.

5. Regulatory Restrictions on Certain Assets

- **Banks:** Often restricted from holding certain types of speculative or illiquid assets (e.g., high-yield, low-grade securities or cryptocurrencies) to safeguard against systemic risks.
- **NBFIs:** May have more freedom to invest in such assets, provided they comply with their sector-specific regulatory requirements.

E3 SCENE-1 EXT. 1.1

SCENE

NBFI A and Bank B. Bank and NBFI has 10 equity; I3: 50 loan in Bank B, I4: 50 loan in NBFI A

- NBFI A and Bank B have equity 10
- NBFI A and Bank B gets 100 deposit
- Central Bank has account of Bank B with reserve as 10
- I1 deposits 100 in Bank B (increasing its reserves) and I2 deposits 100 in NBFI A (increasing its assets like Govt secs, Corporate bonds and other investments)
- I3 takes 50 loan from Bank A
- I4 takes 50 loan from NBFI B

ACCOUNTING

NBFI A's Balance Sheet (After Loan to I4)

Assets	Amount	Liabilities and Equity	Amount
Government Securities	24	Deposits owed	100
Corporate Bonds	18	Equity	10
Other Financial Assets	18		
Loan to I4	50		
Total Assets	110	Total Liabilities + Equity	110

Bank B's Balance Sheet (After I1 and Loan to I3)

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	110	Deposits owed to I1	100
Loan to I3	50	Deposits owed to I3	50
		Equity	10
Total Assets	160	Total Liabilities + Equity	160

OBSERVATION

1. NBFI A (Non-Bank Financial Institution):

- **Assets:** NBFI A's assets include government securities, corporate bonds, other financial assets, and a loan provided to I4.
- **Liabilities:** The liabilities consist mainly of "deposits owed," which represent funds sourced from the market, and a small equity component.
- **Key Insight:**
 - NBFIs do not create money in the same way as banks because they do not have the ability to accept demand deposits.
 - Instead, they channel existing funds (e.g., deposits from investors) into loans and investments.
 - They are essentially intermediaries that redistribute existing money in the economy, without increasing the total money supply.

2. Bank B:

- **Assets:** Bank B's assets include reserves at the central bank and loans issued to I3.
- **Liabilities:** Bank B's liabilities include deposits owed to I1 and I3, along with equity.

- **Key Insight:**
 - Banks have the ability to create money through the process of lending.
 - When a bank grants a loan, it simultaneously creates a corresponding deposit (liability) in the borrower's account. This effectively increases the money supply.
 - In this case, Bank B's loan to I3 results in an additional deposit, contributing to money creation.

Aspect	Banks	NBFIs
Money Creation	Direct (via loan-deposit creation).	Indirect (reallocating or amplifying funds)
Central Bank Role	Maintain reserves; subject to monetary policy.	Not directly regulated for reserve management.
Funding Sources	Deposits and reserve-backed lending.	Borrowing, equity, or customer funds.
Settlement System	Interbank market through central bank.	No direct involvement in central settlements.

Now, the question is, if NBFIs can't create demand deposits against loans, when say I4 takes a loan, what happens to the loan sanctioned? It must leave the NBFI

- By cash route (straight away) as shown above

By being deposited in the bank (explored in next ext.) or to any third party account

E3 SCENE-1 EXT. 1.2

SCENE

NBFI A and Bank B. Bank and NBFI has 10 equity; I3: 50 loan in Bank B, I4: 50 loan in NBFI A; Loan Transfer from NBFI

- NBFI A and Bank B have equity 10
- NBFI A and Bank B gets 100 deposit
- NBFI has account in Bank B with deposit of 60
- Central Bank has account of Bank B with reserve as 170
- I1 deposits 100 in Bank B (increasing its reserves) and I2 deposits 100 in NBFI A (increasing its assets like Govt secs, Corporate bonds and other investments)
- I3 takes 50 loan from Bank A
- I4 takes 50 loan from NBFI B
- I4 has account in Bank B with 0
- Loan deposits

ACCOUNTING

Bank B's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Reserve at Central Bank	160	Deposits owed to I1	100
Loan to I3	50	Deposits owed to NBFI A	50
		Deposit of NBFI A transfer to I4	-50
		Deposits owed to I3	50
		Deposits owed to I4	50
		Equity	10
Total Assets	210	Total Liabilities + Equity	210

NBFI A's Balance Sheet

Assets	Amount	Liabilities and Equity	Amount
Government Securities	24	Deposits owed	100
Corporate Bonds	18	Equity	10
Other Financial Assets	18	NBFI A Account in Bank B (+50 deposit)	50
Loan to I4	50	NBFI A Account in Bank B (-50 debit transfer to I3)	-50
Total Assets	110	Total Liabilities + Equity	110

*liability side entry should be NBFI A Account in Bank B (-50 debit transfer to I4)

OBSERVATION

1. Where the Loan Proceeds Are Deposited

- **NBFIs Do Not Offer Demand Deposit Accounts:** Unlike banks, NBFIs (even deposit-taking ones) typically do not offer current or savings accounts that function as demand deposits. Therefore, the loan proceeds **cannot be deposited in an account with the NBFI**.
- **Loan Proceeds Go to a Bank Account:** In most cases, the NBFI disburses the loan to a bank account held by I4 (the borrower) at a traditional bank. This means the money leaves the NBFI and enters the banking system.

2. Why NBFIs Don't Increase the Money Supply

Even though I4 receives the loan proceeds, here's why the money supply doesn't increase:

1. **No New Deposits Created by NBFIs:** Unlike banks, NBFIs cannot create deposits when lending. The funds are disbursed from their existing assets.
2. **Funds Shift to the Banking System:** The money moves from the NBFI's balance sheet to a bank's balance sheet, but there is no net increase in the total money supply in the economy.
3. **In a nutshell,**
 1. **Bank Lending:** Increases the money supply by creating new deposits, which are liabilities of the bank.
 2. **NBFI Lending:** Transfers existing funds, shifting the composition of assets but not creating new deposits or increasing the money supply.

In the previous section we considered the scenario whereby I4 took out loan in the cash format. Here, we observe that the loan was transferred electronically to I4's account in Bank B. We are assuming a case here, that NBFI has an account with Bank B as well. Note that, if NBFI did not have account with Bank B, but then it will have account with other bank, and then transferring such amount to Bank B I4's account would involve interbank transfer between the Bank B and bank having NBFI's account.

The process broadly follows the following:

- The reduced investments from the Non-Banking Financial Institution (NBFI) toward loans, instead of being withdrawn entirely, would be deposited into the NBFI's account with Bank B.
- Bank B would receive this deposit into the NBFI's account.
- The NBFI would then instruct Bank B to debit its account and credit the funds to I4's account within Bank B.
- Bank B would process the transaction as instructed, completing the transfer.

Some points to note here are,

- **Money Transition:** Funds initially held within NBFI A are transferred into **Bank B's reserve accounts** through I4's deposit. This effectively moves money from the non-banking sector (NBFI) into the banking system (Bank B).
- **Money Creation:** Unlike banks, NBFIs do not create money when issuing loans; they reallocate existing resources. However, when the funds are deposited into a bank, they become part of the broader banking system and can contribute to further money creation via fractional reserve lending.
- **Increased Liquidity in Banks:** Bank B now has more deposits (liabilities) and the corresponding reserves, which it can use to issue loans, thereby expanding the money supply. Essentially, what happens here is the money moves from outside the banking system to within the system via NBFI

LINKAGES BETWEEN BANKS AND NBFI

1. Funding and Borrowing Relationships

NBFIs Borrow from Banks

- **How It Works:**
 - NBFIs often rely on banks for funding, especially for short-term liquidity needs.
 - NBFIs may take loans or overdrafts from banks, secured by collateral (e.g., financial assets like government securities).
- **Example:**
 - A housing finance company (an NBFI) may borrow from banks to finance its home loan operations.

Banks Borrow from NBFIs

- **How It Works:**
 - Banks also borrow from NBFIs, especially those with large cash reserves (e.g., insurance companies or mutual funds).
 - NBFIs may invest in bank-issued instruments such as Certificates of Deposit (CDs), commercial paper, or bonds.
- **Example:**
 - Banks may issue bonds or other instruments that NBFIs (like pension funds or insurance companies) purchase.

2. NBFIs Hold Deposits in Banks

- **How It Works:**
 - NBFIs maintain operating accounts and deposits with banks to manage their cash flows and settle transactions.
 - These accounts allow NBFIs to facilitate payments, loan disbursements, or investment activities.
- **Example:**
 - A mutual fund or insurance company may hold significant deposits in a bank to ensure liquidity.

3. Banks Provide Custodial Services to NBFIs

- **What It Means:**
 - Banks act as custodians for NBFIs, safeguarding securities or other assets.
- **How It Works:**

- NBFIs use banks to hold assets like government securities, corporate bonds, or mutual fund units.
- **Example:**
 - An NBFI investing in Treasury bills may rely on a bank to handle the settlement and custody of these instruments.

4. Participation in the Money Market

NBFIs Provide Liquidity to Banks

- **How It Works:**
 - NBFIs, such as mutual funds or insurance companies, invest surplus funds in money market instruments issued by banks, such as:
 - Certificates of Deposit (CDs)
 - Commercial Paper (CP)
 - Repurchase Agreements (Repos)
- **Example:**
 - A money market mutual fund (MMMF) might lend short-term funds to a bank through a repo transaction.

Banks Provide Liquidity to NBFIs

- **How It Works:**
 - Banks also lend to NBFIs in the interbank market, enabling them to meet short-term funding gaps.
- **Example:**
 - A bank may lend funds to an asset management company facing temporary redemption pressures in its mutual funds.

Let's illustrate the interaction between an **NBFI**, a **bank**, and a **Money Market Mutual Fund (MMMF)** using a specific example:

Entities:

1. **NBFI: Bajaj Finance Ltd.**
 - Needs short-term liquidity to fund its operations (e.g., loan disbursements).
2. **Bank: State Bank of India (SBI)**

- Provides credit and invests surplus funds in MMMFs for treasury management.

3. **MMMF: HDFC Money Market Fund**

- A mutual fund scheme that invests in short-term money market instruments like Commercial Papers (CPs) and Certificates of Deposit (CDs)

Interaction:

1. **Step 1: Bajaj Finance Issues Commercial Paper (CP)**

- Bajaj Finance, needing ₹500 crore for short-term funding, issues CPs with a maturity of 90 days at an interest rate of 6.5%.
- These CPs are a popular instrument for raising funds in the money market.

2. **Step 2: HDFC Money Market Fund Buys the CP**

- HDFC Money Market Fund, managing pooled investor funds (including surplus funds from SBI), purchases the CP issued by Bajaj Finance.
- This allows Bajaj Finance to get the required ₹500 crore for its operations.

3. **Step 3: SBI Invests in HDFC Money Market Fund**

- SBI has surplus funds of ₹1,000 crore, which it invests in HDFC Money Market Fund to earn returns.
- A portion of SBI's investment is used by the MMMF to purchase the CP issued by Bajaj Finance.

4. **Step 4: Maturity and Returns**

- After 90 days, Bajaj Finance repays ₹500 crore along with 6.5% interest to HDFC Money Market Fund.
- HDFC Money Market Fund distributes the returns (minus its management fee) to investors like SBI.

Linking the Entities:

- **Bajaj Finance (NBFI)** raises short-term funds by issuing CPs.
- **HDFC Money Market Fund (MMMF)** acts as the intermediary, pooling funds from investors like SBI and investing in Bajaj Finance's CPs.
- **SBI (Bank)** earns a return on its surplus funds by investing in the MMMF, indirectly financing Bajaj Finance's operations.

Summary of the Interaction:

1. **Bajaj Finance** gets ₹500 crore liquidity.

2. **HDFC Money Market Fund** earns a management fee for handling investments.
3. **SBI** earns a return on its investment in the MMMF, benefiting from the interest paid by Bajaj Finance.

5. Collaboration in Loan Syndication and Co-Lending

- **What It Means:**
 - Banks and NBFIs often collaborate to extend credit to large borrowers or underserved markets.
- **How It Works:**
 - In a **loan syndication**, both banks and NBFIs jointly provide funding to a borrower.
 - In **co-lending**, banks partner with NBFIs (e.g., microfinance institutions) to provide loans to small borrowers or rural markets.
- **Example:**
 - A bank partners with a microfinance NBFI to lend to small businesses in rural areas, where the NBFI handles client acquisition and servicing.

6. Competition for Deposits and Customers

- **How It Works:**
 - NBFIs compete with banks for funds and customers by offering alternatives to traditional banking products:
 - **Deposits vs. Mutual Funds:** NBFIs offer money market mutual funds as an alternative to bank deposits.
 - **Loans:** NBFIs may specialize in niche lending (e.g., housing loans, vehicle loans) where they compete with banks.
- **Example:**
 - A housing finance company competes with a bank's home loan product by offering more flexible terms.

7. Asset Sales and Securitization

- **What It Means:**
 - NBFIs often sell loans or other assets to banks to free up capital and manage risks.

- **How It Works:**
 - Banks purchase loan portfolios (e.g., mortgages, auto loans) from NBFIs or invest in securitized products like mortgage-backed securities (MBS).
- **Example:**
 - A housing finance company sells part of its mortgage loan portfolio to a bank, which then services the loans or uses them as collateral for funding.

8. Banks and NBFIs in Financial Inclusion

- **How It Works:**
 - Banks and NBFIs often collaborate to improve access to credit and financial services in underserved areas.
 - Banks may provide the funding, while NBFIs act as intermediaries with local expertise (e.g., microfinance institutions or fintech lenders).
- **Example:**
 - A bank partners with a fintech NBFI to offer digital loans to rural customers.

Summary of Linkages

Area of Linkage	Details
Funding Relationships	NBFIs borrow from banks; banks raise funds via NBFIs (e.g., CDs, repos).
Deposit Holdings	NBFIs maintain deposits in banks for liquidity and operations.
Custodial Services	Banks act as custodians for NBFI assets like securities.
Money Market Participation	Both borrow and lend to each other in the money market.
Loan Syndication	Banks and NBFIs jointly lend to large or niche borrowers.
Risk Transmission	Stress in one sector can impact the other due to interdependence.
Regulatory Oversight	Shared regulation ensures stability across both sectors.
Securitization	NBFIs sell loans or assets to banks to free capital and reduce risks.
Competition	NBFIs compete with banks for deposits and lending markets.

i want to understand out of balance financing. how are banks involved in that and what does it mean?

What is Off-Balance-Sheet Financing?

Off-balance-sheet (OBS) financing refers to transactions or assets and liabilities that are not recorded on a company's balance sheet but still affect the company's financial standing. This type of financing is used to keep certain obligations or assets from appearing on the balance sheet, which can make the company's financial position look more attractive.

In the banking context, **off-balance-sheet activities** are operations that do not involve a direct asset or liability recorded on the bank's balance sheet but can still generate income or create obligations. These include commitments, guarantees, and derivative transactions.

Common Examples of Off-Balance-Sheet Financing:

1. Loan Commitments:

- Banks offer loan commitments to customers (e.g., credit lines or unused revolving credit facilities), but these are not immediately recorded as liabilities until drawn.

2. Securitization:

- Banks package loans (like mortgages) into securities and sell them to investors. This removes the loans from the bank's balance sheet while the bank may still earn fees for servicing the loans.

3. Guarantees and Letters of Credit:

- Banks issue guarantees or letters of credit to back a client's financial obligations. These are contingent liabilities, as the bank will only need to pay if the client defaults.

4. Derivative Instruments:

- Instruments like interest rate swaps, options, and futures do not involve an initial cash transaction but create exposure to future risks and rewards.

5. Leasing:

- Companies use operating leases (as opposed to capital leases) to avoid recording an asset and liability for the leased item on their balance sheet.

6. Special Purpose Vehicles (SPVs):

- Banks and corporations set up SPVs to hold assets or liabilities, keeping them off the primary balance sheet. SPVs are common in securitization.

Why Banks Use Off-Balance-Sheet Financing:

1. Risk Management:

- Banks use OBS financing to manage risk by transferring or sharing it with other parties (e.g., securitization).

2. Capital Requirements:

- Banks must comply with regulatory capital adequacy requirements (like Basel III). Keeping certain items off the balance sheet can improve their capital ratios.

3. Income Diversification:

- OBS activities generate fee-based income (e.g., through loan guarantees or derivative trading) without requiring significant capital investment.

4. Avoiding Balance Sheet Growth:

- Banks might want to avoid adding assets and liabilities that inflate the balance sheet, which can lead to higher regulatory scrutiny or affect leverage ratios.
-

Risks of Off-Balance-Sheet Financing:

1. Hidden Liabilities:

- OBS transactions can obscure the true financial risks of a bank, making it harder for investors and regulators to assess the bank's stability.

2. Reputational Risk:

- If OBS activities, like guarantees or securitization, go wrong, they can hurt the bank's reputation even if they are not directly on the balance sheet.

3. Systemic Risk:

- Widespread reliance on OBS activities can contribute to systemic risks, as seen during the 2008 financial crisis when securitized mortgage obligations (held off the balance sheets) caused significant losses.
-

How Banks Are Involved:

1. Facilitating OBS Transactions:

- Banks engage in OBS financing by offering structured products, securitization, derivatives, and guarantees.

2. Earning Fees:

- OBS activities like loan commitments or derivatives generate fee income, diversifying revenue streams.

3. Managing Risk and Capital Efficiency:

- By keeping certain items off the balance sheet, banks optimize their capital and manage regulatory requirements.

Example of OBS in Banking:

Mortgage-Backed Securities (MBS):

- A bank issues loans (mortgages) to customers. Instead of holding these loans as assets on its balance sheet, it sells them to an SPV. The SPV packages the loans into MBS and sells them to investors.
- The bank earns fees for originating and servicing the loans but removes the loans from its balance sheet, reducing risk and freeing up capital.

If you'd like, I can further explore specific OBS activities, their mechanics, or how they're reported in financial disclosures.

what is an SPV and if bank sells to SPV then why is it problematic for bank ?

What is an SPV?

A **Special Purpose Vehicle (SPV)** is a legal entity created for a specific, narrow purpose, such as isolating financial risk. SPVs are often used in structured finance and securitization processes. An SPV is **separate from the parent company** (e.g., a bank) and has its own legal and financial standing.

Characteristics of SPVs:

- **Independent Entity:** Legally distinct from the parent company, insulating the parent from financial risks associated with the SPV.
- **Purpose-Built:** Created for a single, specific transaction or project, such as holding securitized assets or financing infrastructure.
- **Limited Liability:** The risks associated with the SPV are contained within it and do not directly affect the parent company unless there are guarantees or recourse provisions.

Why Do Banks Use SPVs?

1. Securitization of Loans:

- Banks bundle loans (e.g., mortgages, credit card debt) into securities and sell them to an SPV. The SPV then sells these securities to investors.
- By transferring these loans to the SPV, the bank reduces the assets (and associated risks) on its balance sheet and frees up capital.

2. Risk Isolation:

- The SPV holds the risky assets, so any loss is contained within the SPV and does not impact the bank's balance sheet directly.

3. Regulatory Compliance:

- By offloading assets to the SPV, banks can improve key financial ratios (e.g., leverage and capital adequacy), making them appear more stable to regulators.

4. Financing Mechanism:

- SPVs can raise funds (e.g., by issuing bonds) without the parent bank incurring direct liabilities.

Why Can SPVs Be Problematic for Banks?

While SPVs provide significant benefits, they can also introduce risks, both to the bank and the broader financial system.

1. Hidden Risks:

- Even though the SPV is legally separate, banks often retain some form of implicit or explicit obligation to support the SPV in case of trouble (e.g., through guarantees or reputational concerns). This "hidden" risk can backfire if the SPV performs poorly.

2. Reputational Risk:

- If an SPV faces financial distress, the bank may feel compelled to bail it out to maintain investor confidence, even if it's not legally required. This happened during the 2008 financial crisis when banks had to bring SPV liabilities back onto their balance sheets to avoid reputational damage.

3. Systemic Risk Amplification:

- SPVs are used to securitize assets, such as mortgage-backed securities (MBS). If these securities are mispriced or based on risky loans, it can lead to widespread defaults. This was a key factor in the 2008 crisis, where SPVs holding subprime mortgages collapsed, creating a chain reaction.

4. Lack of Transparency:

- SPVs can obscure the true financial position of a bank. Investors and regulators may not fully understand the obligations or risks associated with the SPV.

5. Recourse and Guarantees:

- If the SPV issues securities that later default, investors might seek recourse against the bank, especially if there are explicit guarantees. This can bring liabilities back onto the bank's balance sheet.

6. Illusion of Risk Transfer:

- Sometimes, the bank retains significant exposure to the SPV through:
 - Subordinated tranches: The bank may hold junior (riskier) tranches of the securitized assets.
 - Servicing responsibilities: The bank may remain responsible for managing the loans in the SPV.

7. Market Dependence:

- The success of an SPV depends on the willingness of investors to buy the securities issued by it. In a market downturn, investor demand may dry up, leaving the bank exposed.

Example: 2008 Financial Crisis and SPVs

- **Securitization of Subprime Mortgages:**
 - Banks sold risky subprime mortgages to SPVs, which then bundled them into MBS and sold them to investors.
 - When the housing market collapsed, these MBS plummeted in value. The SPVs holding them became insolvent, causing huge losses to investors.
 - Banks that had retained exposure to the SPVs (e.g., through guarantees or junior tranches) faced significant financial losses.
- **Reputational Fallout:**
 - Even when banks had no legal obligation to support their SPVs, the fear of reputational damage forced many to buy back toxic assets, straining their financial health.

Why Banks Are Still Linked to SPVs:

1. **Reputation:** If an SPV fails, the parent bank's reputation can suffer, even if the legal liability lies with the SPV.
2. **Implicit Guarantees:** Investors may assume the bank will step in to support the SPV, especially if the bank relies heavily on it.
3. **Regulatory Backlash:** Banks that use SPVs to obscure risks may face scrutiny and penalties if regulators discover financial mismanagement.

Summary:

SPVs are powerful tools for managing risk, raising capital, and improving financial ratios, but they can create hidden obligations for banks. These obligations, combined with a lack of transparency, reputational concerns, and market dependencies, make SPVs risky if not managed properly. While they can help banks offload assets, they do not entirely eliminate risk, as demonstrated by their role in the 2008 financial crisis.

is SPV same as ABCP conduit

No, **Special Purpose Vehicles (SPVs)** and **Asset-Backed Commercial Paper (ABCP) conduits** are related but distinct concepts. Let's break them down and highlight the differences and relationships.

What is an SPV?

As discussed earlier, an **SPV (Special Purpose Vehicle)** is a legal entity created to isolate financial risk or facilitate specific transactions.

Key Characteristics:

- **Purpose:** Often used for securitization, project financing, or other structured financial activities.
 - **Structure:** The SPV is separate from the parent company, insulating the parent from liabilities and risks tied to the SPV.
 - **Assets:** The SPV holds specific assets (e.g., loans, mortgages, or receivables) that are isolated from the parent's balance sheet.
 - **Funding:** It typically raises funding through the issuance of **asset-backed securities (ABS)** or other debt instruments.
-

What is an ABCP Conduit?

An **Asset-Backed Commercial Paper (ABCP) conduit** is a specific type of SPV designed to issue **short-term commercial paper** that is backed by underlying assets, such as receivables, loans, or other financial assets.

Key Characteristics:

1. **Purpose:**
 - Provides short-term funding to businesses or financial institutions.
 - Often used to finance trade receivables, credit card receivables, auto loans, or other financial assets.
2. **Structure:**
 - The conduit buys assets (such as loans or receivables) from a company or a bank and funds these purchases by issuing **commercial paper** (short-term debt) to investors.

3. **Short-Term Nature:**

- The commercial paper typically matures within 90 days, making it a short-term financing tool.

4. **Sponsor:**

- Often, a bank or financial institution sponsors the ABCP conduit, providing liquidity or credit enhancements to ensure investors are repaid if the underlying assets fail to perform.
-

How Are SPVs and ABCP Conduits Related?

1. **Structural Similarity:**

- Both SPVs and ABCP conduits are special-purpose entities created to isolate assets and risks from the sponsoring entity (e.g., a bank).

2. **Asset-Backed Focus:**

- Both entities deal with asset-backed financing. An SPV typically holds assets that back long-term securities (like mortgage-backed securities), while an ABCP conduit issues **short-term commercial paper** backed by similar types of assets.

3. **Bank Involvement:**

- Banks often play a key role in sponsoring both SPVs and ABCP conduits by:
 - Transferring assets to them.
 - Providing credit enhancements or liquidity support.
 - Earning fees for managing these structures.

4. **Differences in Maturity and Purpose:**

- **SPVs:** Primarily used for long-term securitization or risk isolation.
 - **ABCP Conduits:** Focused on short-term funding needs, typically by issuing commercial paper to finance the purchase of assets.
-

Example: ABCP Conduit in Practice

1. A bank creates an ABCP conduit to finance a company's receivables.
2. The company sells its receivables (e.g., money owed by its customers) to the conduit.
3. The conduit issues **commercial paper** to investors, using the proceeds to pay the company for its receivables.

4. The conduit earns interest from the receivables and uses this to repay the commercial paper investors when the debt matures.
-

Risks of ABCP Conduits:

1. **Liquidity Risk:**

- If the underlying assets (like receivables) do not generate cash quickly enough to repay maturing commercial paper, the conduit may face a cash crunch.

2. **Dependence on Sponsor Bank:**

- Often, banks provide liquidity or guarantees to ensure the conduit can meet its obligations. This can create risks for the sponsoring bank.

3. **Market Risk:**

- If investors lose confidence in the commercial paper market (as happened during the 2008 financial crisis), conduits may fail to roll over their debt.
-

Key Differences Between SPVs and ABCP Conduits

Feature	SPV	ABCP Conduit
Purpose	Isolates long-term risks, securitization	Provides short-term funding
Funding	Issues long-term securities (e.g., ABS)	Issues short-term commercial paper
Maturity	Long-term (e.g., years)	Short-term (e.g., up to 90 days)
Sponsor Role	May or may not involve liquidity support	Usually involves bank liquidity support
Focus	Risk isolation or investment projects	Working capital or receivables funding
Investor Type	Long-term investors	Short-term money market investors

Why Can ABCP Conduits Be Problematic?

1. **2008 Financial Crisis Example:**

- Many ABCP conduits held mortgage-backed securities (MBS) as collateral.
- When the value of the MBS collapsed, investors lost confidence in commercial paper markets.

- Banks that sponsored the conduits were forced to provide liquidity, which strained their balance sheets.

2. Hidden Risks:

- Similar to SPVs, the risks of ABCP conduits may not be immediately visible on the bank's balance sheet but can create significant liabilities if the conduit fails.

3. Market Volatility:

- ABCP conduits are dependent on investor confidence in short-term debt markets. Any disruption can lead to a liquidity crisis.

Summary:

While an **ABCP conduit** is a type of **SPV**, it is designed specifically to issue **short-term commercial paper** backed by assets, whereas an SPV is a broader concept used for a variety of financial purposes. The risks of ABCP conduits are primarily related to liquidity and market confidence, which can lead to problems for the sponsoring bank if the conduit cannot roll over its debt.

What does it mean that banks were sponsors to ABCP conduits during 2008

When banks were **sponsors to Asset-Backed Commercial Paper (ABCP) conduits** during the 2008 financial crisis, it meant that they played a crucial role in creating, managing, and supporting these conduits. However, their sponsorship often exposed them to significant risks when the underlying assets of these conduits began to lose value.

Here's what being a **sponsor to an ABCP conduit** entailed and how it contributed to the 2008 financial crisis:

What Does It Mean to Be a Sponsor of an ABCP Conduit?

1. Creation and Management:

- Banks established and managed ABCP conduits as separate legal entities (SPVs). These conduits were designed to purchase financial assets, such as mortgages, credit card receivables, or auto loans.
- The banks would structure these conduits to issue **short-term commercial paper**, which investors would buy, believing it to be safe, high-quality debt.

2. Liquidity Support:

- Banks often provided **liquidity backstops** to the conduits. If the conduit could not roll over its commercial paper (due to market conditions or investor confidence), the sponsoring bank would step in and provide funding to ensure the conduit could meet its obligations.

- This was typically done through standby liquidity facilities or guarantees, which made the commercial paper more attractive to investors.

3. **Credit Enhancements:**

- Banks sometimes offered credit enhancements, such as guarantees or letters of credit, to reassure investors that they would step in if the conduit's assets failed to perform. This created an implicit or explicit obligation for the bank to cover potential losses.

4. **Fee Income:**

- In return for managing the conduit and providing these support mechanisms, banks earned fees from the conduit's operations, such as for issuing commercial paper or servicing the underlying assets.
-

How Did Sponsorship Contribute to the 2008 Financial Crisis?

1. **Risk Concentration and Hidden Liabilities:**

- Many ABCP conduits were holding risky, securitized assets like **mortgage-backed securities (MBS)**, including those based on subprime mortgages. These assets began to lose value as the U.S. housing market deteriorated.
- Even though conduits were "off-balance-sheet," banks remained exposed through the liquidity backstops and credit guarantees. As these conduits faced losses, the liabilities effectively came back onto the banks' balance sheets.

2. **Market Panic and Liquidity Crunch:**

- When the value of the assets held by the conduits started falling, investors lost confidence in commercial paper markets and stopped rolling over ABCP.
- As a result, conduits could not refinance their debt, forcing sponsoring banks to step in and provide liquidity, which strained their own cash reserves and balance sheets.

3. **Systemic Risk Amplification:**

- Banks underestimated the risk associated with sponsoring these conduits. Many banks were simultaneously exposed to the same types of assets (e.g., subprime mortgages) through multiple channels, such as direct holdings, securitizations, and ABCP conduits.
- The interconnected nature of the financial system meant that failures in conduits quickly spread across the banking sector, amplifying the systemic risk.

4. **Capital and Solvency Issues:**

- The need to support failing conduits added significant stress to banks' capital positions. Banks had to absorb losses, write down the value of bad assets, and allocate more capital to meet regulatory requirements.

Key Problems with ABCP Conduit Sponsorship:

1. Misperceived Risk:

- Banks and investors assumed that conduits, backed by short-term debt and securitized assets, were low-risk. This turned out to be false as the underlying assets (e.g., subprime mortgages) collapsed in value.

2. Off-Balance-Sheet Exposure:

- Sponsoring banks treated conduits as **off-balance-sheet entities**, meaning their obligations to support the conduits were not transparently reflected on their financial statements. This misled investors and regulators about the true financial risks.

3. Liquidity Crisis:

- When conduits faced a lack of demand for their commercial paper, sponsoring banks had to fulfill their liquidity guarantees, leading to a cash crunch for many banks.

4. Reputational Risk:

- Even when banks were not legally obligated to support their conduits, they often felt pressured to do so to avoid reputational damage. This further strained their financial health.

Example from the 2008 Crisis:

• Citigroup:

- Citigroup sponsored several ABCP conduits that held large amounts of subprime mortgage-backed securities.
- When the market for commercial paper froze, Citigroup had to provide billions of dollars in liquidity support to these conduits.
- These liabilities, previously off-balance-sheet, became on-balance-sheet obligations, severely impacting the bank's capital and triggering massive losses.

• Bear Stearns and Lehman Brothers:

- These firms were also heavily involved in sponsoring ABCP conduits and were similarly affected when investors fled the commercial paper market.

Lessons Learned and Regulatory Changes:

The role of banks in sponsoring ABCP conduits revealed major vulnerabilities in the financial system. In response, regulators implemented stricter rules:

1. **Basel III Capital Requirements:**

- Banks now need to hold more capital against off-balance-sheet exposures, including ABCP conduits, to prevent excessive risk-taking.

2. **Enhanced Disclosure:**

- Banks are required to provide more transparent reporting of their off-balance-sheet exposures, including the risks associated with ABCP conduits.

3. **Restrictions on Securitization:**

- Regulations were introduced to ensure better underwriting standards for securitized assets and to reduce reliance on off-balance-sheet financing.

Summary:

Sponsoring banks of ABCP conduits in 2008 were responsible for structuring and supporting these entities. While conduits were designed to be "off-balance-sheet," the sponsorship created hidden risks that came to light during the financial crisis. As conduits failed due to risky assets and market panic, sponsoring banks faced massive liquidity demands and balance sheet stress, contributing to the systemic failures of the financial system.

NBFC may also raise money by issuing Commercial Paper. Will ABCP conduits buy them?

Yes, **ABCP conduits** can buy commercial paper (CP) issued by Non-Banking Financial Companies (NBFCs), but this depends on the structure and purpose of the ABCP conduit. Let me explain how this works and under what circumstances it might happen.

How ABCP Conduits and NBFC Commercial Paper Are Linked

1. Purpose of ABCP Conduits:

- ABCP conduits are designed to invest in or finance short-term assets like receivables, loans, or other financial instruments.
- They issue **Asset-Backed Commercial Paper (ABCP)** to raise funds from investors. The proceeds are used to purchase or finance assets such as:
 - Trade receivables
 - Auto loans
 - Mortgage-backed securities

- Other short-term debt, including commercial paper issued by corporations or NBFCs.

2. Buying NBFC Commercial Paper:

- If an NBFC issues CP, an ABCP conduit could buy it as part of its portfolio of assets.
- This would depend on:
 - The creditworthiness of the NBFC.
 - The quality of the NBFC's underlying assets or operations.
 - The risk appetite of the ABCP conduit and its sponsoring bank.

3. Structured Financing:

- Sometimes, the NBFC might sell its **receivables** or loans (e.g., consumer loans, vehicle loans) to the ABCP conduit instead of directly selling its CP.
 - The conduit could then bundle these assets into a pool and issue **ABCP backed by the NBFC's receivables**.
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Why Would an ABCP Conduit Buy NBFC Commercial Paper?

1. Higher Yield:

- Commercial paper issued by NBFCs often carries a slightly higher interest rate compared to more traditional assets (like government securities), making them attractive to ABCP conduits looking to maximize returns.

2. Short-Term Maturity Match:

- NBFC-issued CP typically has short maturities (e.g., 30–90 days), aligning well with the short-term liabilities of ABCP.

3. Diversification:

- Adding NBFC-issued CP to the conduit's portfolio provides diversification across different asset classes and issuers.
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Risks for ABCP Conduits When Buying NBFC Commercial Paper

1. Credit Risk:

- If the NBFC issuing the CP defaults, the ABCP conduit could suffer losses, which may impair its ability to repay its own investors.

2. Liquidity Risk:

- If there is a liquidity crunch in the market, the conduit may find it difficult to roll over its ABCP while holding illiquid NBFC CP.

3. Systemic Risk:

- If an NBFC's financial health deteriorates (e.g., due to loan defaults or funding pressures), it can negatively affect the ABCP conduits holding their CP, especially if the NBFC is a large player in the financial system.

4. Dependence on Credit Enhancements:

- To reduce these risks, conduits may rely on credit enhancements (e.g., guarantees from the sponsoring bank or the NBFC itself). However, this transfers some of the risk back to the sponsor.

Regulatory Factors

- **In India:** For example, the Reserve Bank of India (RBI) regulates the issuance of CP by NBFCs and imposes strict conditions, including maintaining a minimum credit rating and other financial safeguards. This oversight can make NBFC CP more attractive to buyers like ABCP conduits.
- **Post-2008 Global Changes:** Stricter regulations have been introduced globally, requiring ABCP conduits and their sponsoring banks to carefully assess the risks associated with the assets they purchase, including NBFC CP.

Alternative to Buying NBFC CP: Direct Purchase of Receivables

ABCP conduits often prefer to **directly buy receivables** or securitized loan portfolios from NBFCs instead of their CP. Here's why:

- **Asset-Backed Nature:** The receivables are tied to underlying assets, making them less risky compared to unsecured CP.
- **Structured Cash Flows:** Loan receivables provide predictable cash flows, which align well with the conduit's short-term liabilities.

Example Scenario:

An NBFC specializing in vehicle loans wants to raise short-term funds. It could:

1. **Issue CP:** The NBFC issues CP with a maturity of 90 days. An ABCP conduit may buy this CP if it fits within the conduit's risk-return profile.
2. **Sell Receivables:** Alternatively, the NBFC could sell its vehicle loan receivables to the ABCP conduit. The conduit would then issue its own ABCP, backed by these receivables, to fund the purchase.

Summary

Yes, ABCP conduits can buy NBFC-issued CP if it aligns with their investment goals and risk tolerance. However, buying CP is just one of the options. Often, ABCP conduits prefer to invest in securitized loan portfolios or receivables from NBFCs, as these provide more security and align better with the conduit's asset-backed structure. The choice between buying CP or other assets depends on market conditions, creditworthiness, and regulatory oversight.

and bank may act as sponsor to this ABCP

Yes, a **bank can act as a sponsor to an ABCP conduit**, including one that finances **NBFC-issued commercial paper (CP)** or securitized assets. Sponsorship by a bank means the bank is involved in creating, managing, and often providing support to the ABCP conduit. Let's dive into how this works in detail and why banks do it.

How Banks Act as Sponsors to ABCP Conduits

1. Creation and Structuring:

- A bank establishes an ABCP conduit as a **Special Purpose Vehicle (SPV)** to hold short-term assets like commercial paper (issued by NBFCs or other entities), receivables, or securitized assets.
- The bank structures the conduit to issue **Asset-Backed Commercial Paper (ABCP)** to investors. These papers are backed by the underlying assets held by the conduit.

2. Funding Facilitation:

- The conduit purchases assets (e.g., CP or receivables from NBFCs) and finances these purchases by issuing short-term commercial paper (ABCP) to money market investors.

3. Providing Liquidity Support:

- The sponsoring bank provides **liquidity support** to the conduit. If the conduit is unable to roll over its ABCP due to market conditions or cash flow mismatches, the bank steps in to provide funding.
- Liquidity support can be through standby credit lines, loan facilities, or direct cash injections.

4. Offering Credit Enhancements:

- Banks may provide **credit enhancements** to improve the quality of the ABCP issued by the conduit. Examples include:
 - **Guarantees:** The bank guarantees repayment to ABCP investors if the conduit's assets fail to generate sufficient cash.
 - **Overcollateralization:** The bank ensures the conduit holds more assets than needed to secure its liabilities, offering a buffer against losses.

5. **Earning Fees and Revenues:**

- The sponsoring bank earns fees for setting up the conduit, managing its assets, and providing liquidity or credit support. These fees are a source of income for the bank.

6. **Risk Management:**

- By sponsoring an ABCP conduit, the bank can offload risky or illiquid assets from its balance sheet while still maintaining a relationship with the assets indirectly through the conduit.

Why Banks Sponsor ABCP Conduits for NBFC Financing

1. **Facilitating Short-Term Funding:**

- Banks act as intermediaries, helping NBFCs raise funds through the sale of CP or securitized receivables to the conduit.
- This is particularly useful for NBFCs with a need for continuous short-term financing.

2. **Leveraging the Conduit for Asset Diversification:**

- ABCP conduits allow banks to diversify their exposure by holding a mix of assets, including NBFC-issued CP, trade receivables, or other securitized loans.

3. **Off-Balance-Sheet Financing:**

- By transferring the assets to the conduit, the bank keeps them **off its balance sheet** while still earning fees. This helps banks manage their leverage and capital adequacy ratios (e.g., Basel III requirements).

4. **Meeting Investor Demand:**

- Many money market investors are keen to invest in ABCP due to its short maturity and perceived safety (backed by the conduit's assets and bank support). Sponsoring such conduits allows banks to serve these investors.

5. **Supporting NBFC Partners:**

- Banks often have strong relationships with NBFCs and may sponsor conduits to help NBFCs access liquidity, indirectly benefiting their own client base.

Risks for Banks Acting as Sponsors

1. **Liquidity Risk:**

- If the ABCP conduit cannot roll over its commercial paper, the bank is obligated to provide liquidity. This can strain the bank's resources, especially during a market crisis.

2. Credit Risk:

- If the NBFCs whose CP or assets are financed through the conduit default, the value of the assets held by the conduit may deteriorate. If the bank has provided guarantees or credit enhancements, it bears the loss.

3. Reputational Risk:

- Even if the bank has no legal obligation to support the conduit, a failure of the conduit can damage the bank's reputation, especially if it was marketed as a safe investment.

4. Regulatory Risk:

- Post-2008, regulations like Basel III require banks to hold more capital against off-balance-sheet exposures, including liquidity and credit commitments to ABCP conduits. This increases the cost of sponsorship.

5. Market Confidence Risk:

- If investors lose confidence in the ABCP market, conduits may face a sudden withdrawal of funding, leaving the sponsoring bank with unexpected liabilities.
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Example: How It Might Work with an NBFC

1. NBFC Issues CP:

- An NBFC issues short-term commercial paper to raise funds for its operations, such as disbursing loans.

2. ABCP Conduit Buys the CP:

- The ABCP conduit, sponsored by a bank, purchases the CP issued by the NBFC using funds raised by issuing its own ABCP to investors.

3. Bank Support:

- The sponsoring bank provides liquidity or credit support to ensure that the conduit can meet its obligations to ABCP investors, even if the NBFC's CP experiences delays or defaults.

4. Cycle Continues:

- As the CP matures and is repaid, the conduit reinvests in new CP or other short-term assets, maintaining the cycle.
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ABCP Conduits During 2008: Lessons for Banks Sponsoring NBFC Financing

- In 2008, many ABCP conduits held risky mortgage-backed securities (MBS), and when the underlying assets lost value, investors stopped rolling over ABCP.

- Banks that sponsored these conduits were forced to provide liquidity and absorb losses, leading to significant balance sheet stress.
 - If an NBFC were to default on its CP or face cash flow issues, a sponsoring bank might face similar challenges.
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Summary

Yes, a bank can sponsor an ABCP conduit that finances NBFCs by buying their commercial paper or securitized assets. Sponsoring a conduit allows banks to facilitate funding for NBFCs, diversify risk, and earn fees, but it also exposes them to liquidity, credit, and reputational risks. This structure can be highly effective in normal market conditions but requires careful risk management to avoid pitfalls like those seen during the 2008 financial crisis.

can banks buy CP from this ABCP (which could pack NBFC's loans/CP's and sell to banks)?

Yes, **banks can buy Commercial Paper (CP)** issued by an **ABCP conduit**, which might package loans, receivables, or CP issued by NBFCs. However, this arrangement depends on the regulatory framework, risk appetite, and strategic objectives of the banks involved. Here's how this process works and the associated implications:

How It Works

1. The ABCP Conduit Packages Assets:

- The ABCP conduit (sponsored by a bank or financial institution) purchases assets such as:
 - Loans or receivables originated by NBFCs.
 - Commercial Paper issued by NBFCs or other corporations.
- These assets are pooled together and used as collateral to back the ABCP issued by the conduit.

2. Issuance of ABCP:

- The conduit raises funds by issuing **short-term Asset-Backed Commercial Paper (ABCP)** to investors, including banks, money market funds, and other institutional investors.
- The CP is secured by the underlying assets in the conduit's portfolio.

3. Banks as Buyers:

- Banks may buy this ABCP for several reasons, such as earning interest, diversifying their portfolios, or funding short-term liquidity needs.
 - By buying this CP, banks effectively provide funding to the conduit, which, in turn, indirectly funds NBFCs or the underlying assets.
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Why Banks Might Buy CP from ABCP Conduits

1. Liquidity Management:

- Banks often invest in short-term instruments like CP to manage their liquidity. ABCP offers a short-term, relatively safe option for parking funds.

2. Higher Returns:

- ABCP typically offers slightly higher yields than Treasury bills or other short-term government securities, making it attractive for banks looking to optimize returns.

3. Diversification:

- Buying ABCP allows banks to diversify their portfolios by gaining exposure to different types of underlying assets (e.g., NBFC receivables, corporate loans).

4. Regulatory Arbitrage:

- In some cases, banks might prefer to invest in ABCP instead of directly funding NBFCs because the risk weight or capital requirements for holding ABCP may be lower than for direct lending, depending on regulatory rules.

5. Support for the Conduit:

- If the bank is the sponsor of the ABCP conduit, it might purchase some of the conduit's CP to provide market confidence and ensure liquidity.
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Risks for Banks Buying ABCP

1. Credit Risk:

- The underlying assets backing the ABCP (e.g., NBFC loans or CP) may default or underperform, reducing the value of the collateral.
- If NBFCs face liquidity or solvency issues, the ABCP may lose its value.

2. Liquidity Risk:

- In times of market stress, banks holding ABCP might find it difficult to sell these instruments or roll them over, as happened during the 2008 financial crisis.

3. Systemic Risk:

- If multiple banks buy ABCP backed by the same type of assets (e.g., loans from NBFCs), a downturn in the asset class could create a contagion effect across the financial system.

4. Regulatory Scrutiny:

- Post-2008, regulators have tightened rules around off-balance-sheet financing and exposure to structured products like ABCP. Banks must carefully manage their exposure to avoid regulatory penalties.

5. Reputational Risk:

- If the ABCP conduit defaults, banks holding the CP could face reputational damage, especially if they are perceived as taking excessive risks.
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Example Scenario: Banks Buying ABCP Backed by NBFC Loans

1. Asset Origination:

- An NBFC issues loans (e.g., auto loans, personal loans) or CP. These are sold to an ABCP conduit, which pools them into a portfolio.

2. Issuance of ABCP:

- The conduit issues ABCP to raise funds, backed by the NBFC loans or CP.

3. Bank Purchases ABCP:

- A bank buys the ABCP as an investment, effectively funding the conduit and indirectly providing liquidity to the NBFC.
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Benefits of This Setup

1. Funding Flow to NBFCs:

- This arrangement helps NBFCs access funds indirectly, even if banks are hesitant to lend to them directly due to regulatory or risk constraints.

2. Market Efficiency:

- By pooling and securitizing assets, the conduit creates a liquid and tradable instrument (ABCP) that can attract a broader range of investors, including banks.

3. Risk Diversification:

- Banks gain exposure to a diversified pool of underlying assets, reducing the concentration risk compared to directly lending to a single NBFC.
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Challenges and Concerns

1. Hidden Risks:

- Banks may underestimate the risks associated with the underlying assets in the ABCP portfolio, especially if the assets are poorly rated or lack transparency.

2. Contagion Effect:

- If NBFCs face widespread defaults, the conduits holding their loans or CP could collapse, affecting banks that invested in their ABCP.

3. Regulatory Oversight:

- Banks must comply with stringent rules for investments in structured products like ABCP, including maintaining adequate capital and conducting due diligence on the underlying assets.

Regulatory Perspective

Regulators, particularly post-2008, have emphasized the need for transparency and risk management in structured finance. Key measures include:

- **Risk-Based Capital Requirements:** Banks must hold capital proportional to the risk of the ABCP they hold.
- **Stress Testing:** Banks must test their exposure to ABCP under adverse market conditions.
- **Enhanced Disclosure:** Banks and conduits must provide detailed information about the underlying assets and risks to investors.

Summary

Yes, banks can buy CP issued by an ABCP conduit, which might be backed by NBFC loans or CP. This arrangement provides a way for banks to invest in short-term, diversified instruments while indirectly funding NBFCs. However, it carries risks related to the quality of the underlying assets, market liquidity, and systemic contagion, which banks must carefully manage. The structure is efficient for funding but requires robust risk controls and regulatory compliance to prevent financial instability.