

Workshop 2 - Understanding Bank Financial Statements II

AFIN8003 Workshop 2

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1 Simple banking book accounting

1.1 A first look at bank's balance sheet

To begin with, a simple bank has just been established with shareholders' contribution of \$10,000.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$10,000.00
Total assets	\$10,000.00
Liabilities	
Total liabilities	\$0.00
Net assets	\$10,000.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Total shareholders' equity	\$10,000.00

Date: 2025-07-28

1.2 Customer deposit

Now some customers have made some deposits, for example:

- Customer A deposits \$60,000.
- Customer B deposits \$40,000.
- Customer C deposits \$20,000.

Notably, customer deposits are the bank's *liability*. We see an increase in both the bank's total assets and total liabilities, while total shareholders' equity remains unchanged.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$130,000.00
Total assets	\$130,000.00
Liabilities	
Deposits and Other Public Borrowings	\$120,000.00
Deposits	\$120,000.00

Total liabilities	\$120,000.00
Net assets	\$10,000.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Total shareholders' equity	\$10,000.00

Date: 2025-07-28

1.3 Deposit withdraw

Depositors can also withdraw from the bank.

If Customer C has withdrawn all of their deposits (\$20,000), we see a decrease of cash and deposits.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$110,000.00
Total assets	\$110,000.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,000.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Total shareholders' equity	\$10,000.00

Date: 2025-07-28

1.4 Loan disbursement

Of course, the typical business of a bank is to make loans. Let's assume the bank has made an (interest-only) loan of \$80,000 to some borrowers.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$30,000.00
Loans and Advances	\$80,000.00
Total assets	\$110,000.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,000.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00

Total shareholders' equity	\$10,000.00
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Date: 2025-07-28

1.5 Interest paid on deposits

After some time (e.g., a month), the bank may need to pay interest on customers' deposits, e.g., \$100.

💡 **Income Statement** is included given that we'd like to know the profit and loss (P&L) of the bank over the period.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$29,900.00
Loans and Advances	\$80,000.00
Total assets	\$109,900.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$9,900.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	(\$100.00)
Total shareholders' equity	\$9,900.00

Date: 2025-08-28

Income Statement

Income	\$0.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	(\$100.00)

Date: 2025-08-28

1.6 Loan interest income

💡 If the bank has only paid interest on deposits over this period, it surely has a net loss or negative profit as shown before.
However, it is more reasonable that the bank also has earned some profits during the same time, especially because it has made some loans.

Suppose that over the 1-month period, the bank has earned some interest income from the loans made earlier, e.g., for a total of \$800.

💡 Overall, the bank has a net profit of \$700. We can observe that the bank's **Retained Earnings** has increased by \$700, too.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$30,700.00
Loans and Advances	\$80,000.00
Total assets	\$110,700.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,700.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$700.00
Total shareholders' equity	\$10,700.00

Date: 2025-08-28

Income Statement

Income	\$800.00
Interest Income	\$800.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$700.00

Date: 2025-08-28

2 Intermediate trading book accounting

2.1 Trading Book

The transactions and non-transactions previous discussed all occur to the bank's **banking book**.

However, a bank also has a **trading book** that holds securities for short-term trading P&L purposes.

i These instruments are named **Fair Value Through Profit and Loss (FVTPL)**.

Accounting for trading book securities is relatively easy. We consider:

1. The purchase
2. The marking-to-market
3. The sale

2.2 FVTPL security purchase

Assume that the bank just purchased a FVTPL security for its trading book at its fair value of \$10,000.

The fair value of the security is recorded on the balance sheet under the *Assets at FVTPL* account.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$30,700.00
Loans and Advances	\$80,000.00
Total assets	\$110,700.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,700.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$700.00
Total shareholders' equity	\$10,700.00

Date: 2025-08-28

Balance Sheet

Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$10,000.00
Total assets	\$110,700.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,700.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$700.00
Total shareholders' equity	\$10,700.00

Date: 2025-08-28

2.3 FVTPL security marking to market

- The *fair value* of FVTPL security is **marked to market** periodically, e.g., daily.
- This ensures consistency in that they are held for trading P&L in the first place.

There are two possible cases:

1. Unrealized trading loss
2. Unrealized trading gain

i These trading gains and losses are *unrealized* because the securities have not yet been sold.

2.4 Unrealized trading loss - Income Statement

If the market value of the security went down by 5% (\$500) the next day, we need to recognize this *unrealized trading loss* in the Income Statement.

Income Statement	
Income	\$800.00
Interest Income	\$800.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$700.00

Date: 2025-08-28

Income Statement	
Income	\$300.00
Interest Income	\$800.00
Trading Income (FVTPL)	(\$500.00)
Unrealized Trading Loss	\$500.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$200.00

Date: 2025-08-29

2.5 Unrealized trading loss - Balance Sheet

If we were to generate the balance sheet now, such net trading loss would reduce the bank's retained earnings.

Balance Sheet	
Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$10,000.00
Total assets	\$110,700.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,700.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$700.00
Total shareholders' equity	\$10,700.00

Date: 2025-08-28

Balance Sheet

Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$9,500.00
Total assets	\$110,200.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,200.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$200.00
Total shareholders' equity	\$10,200.00

Date: 2025-08-29

! Usually, financial reports are generated at a period's end, such as quarter's end or year's end. What's shown here should be viewed as *what if we close the bank's accounting ledger at this time and generate the reports?*

2.6 Unrealized trading gain - Income Statement

The day after, if the market value of the security went up by 10% (\$950), we need to recognize this *unrealized trading gain*.

Income Statement

Income	\$300.00
Interest Income	\$800.00
Trading Income (FVTPL)	(\$500.00)
Unrealized Trading Loss	\$500.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$200.00

Date: 2025-08-29

Income Statement

Income	\$1,250.00
Interest Income	\$800.00
Trading Income (FVTPL)	\$450.00
Unrealized Trading Gain	\$950.00
Unrealized Trading Loss	\$500.00
Expense	\$100.00
Interest Expense	\$100.00

Profit	\$1,150.00
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Date: 2025-08-30

2.7 Unrealized trading gain - Balance Sheet

Again, if we were to close the bank's accounting ledger now and check its balance sheet, we will see changes of the bank's retained earnings (increase by \$950).

Balance Sheet

Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$9,500.00
Total assets	\$110,200.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$10,200.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$200.00
Total shareholders' equity	\$10,200.00

Date: 2025-08-29

Balance Sheet

Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$10,450.00
Total assets	\$111,150.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$11,150.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$1,150.00
Total shareholders' equity	\$11,150.00

Date: 2025-08-30

2.8 FVTPL security sale

The next day, if the bank sold the security at the prevailing market price (assumed 2% up), we recognize *realized trading gain*.

Tracking the P&L of this particular FVTPL security,

1. On day 1, we had a loss of \$500 ($\$10,000 * 0.95 = \$9,500$).
2. On day 2, we had a gain of \$950 ($\$9,500 * 1.1 = \$10,450$).
3. On day 3, we had a gain of \$209 ($\$10,450 * 1.02 = \$10,659$).

The total P&L from this security is therefore a net gain of \$659, which shows up in the Income Statement.

i Because of the sale, the *unrealized trading gain/loss* associated with this security must be **reclassified** to *realized gain/loss*.

2.9 FVTPL security sale - Income Statement

Income Statement

Income	\$1,250.00
Interest Income	\$800.00
Trading Income (FVTPL)	\$450.00
Unrealized Trading Gain	\$950.00
Unrealized Trading Loss	\$500.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$1,150.00

Date: 2025-08-30

Income Statement

Income	\$1,459.00
Interest Income	\$800.00
Trading Income (FVTPL)	\$659.00
Realized Trading Gain	\$1,159.00
Realized Trading Loss	\$500.00
Expense	\$100.00
Interest Expense	\$100.00
Profit	\$1,359.00

Date: 2025-08-31

- Trading gain: $\$950 + \$209 = \$1159$
- Trading loss: \$500
- Net gain: \$659
- Gain/loss *reclassified* from unrealized to realized

2.10 FVTPL security sale - Balance Sheet

Now, if we were to close the bank's accounting ledger and produce its balance sheet, we will have:

Balance Sheet

Assets	
Cash and Cash Equivalents	\$20,700.00
Loans and Advances	\$80,000.00
Assets at FVTPL	\$10,450.00
Total assets	\$111,150.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$11,150.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$1,150.00
Total shareholders' equity	\$11,150.00

Date: 2025-08-30

Balance Sheet

Assets	
Cash and Cash Equivalents	\$31,359.00
Loans and Advances	\$80,000.00
Total assets	\$111,359.00
Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00
Net assets	\$11,359.00
Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$1,359.00
Total shareholders' equity	\$11,359.00

Date: 2025-08-31

2.11 FVTPL security sale - Balance Sheet

Compared to the balance sheet before the bank purchased this FVTPL security, the retained earnings increased by exactly \$659.

Balance Sheet

Assets	
Cash and Cash Equivalents	\$30,700.00
Loans and Advances	\$80,000.00
Total assets	\$110,700.00
Liabilities	

Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00

Net assets \$10,700.00

Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$700.00
Total shareholders' equity	\$10,700.00

Date: 2025-08-28

Balance Sheet

Assets	
Cash and Cash Equivalents	\$31,359.00
Loans and Advances	\$80,000.00
Total assets	\$111,359.00

Liabilities	
Deposits and Other Public Borrowings	\$100,000.00
Deposits	\$100,000.00
Total liabilities	\$100,000.00

Net assets \$11,359.00

Shareholders' equity	
Shareholders' Equity	\$10,000.00
Retained Earnings	\$1,359.00
Total shareholders' equity	\$11,359.00

Date: 2025-08-31

3 Intermediate banking book accounting

3.1 TBC

We'll discuss more next week!