

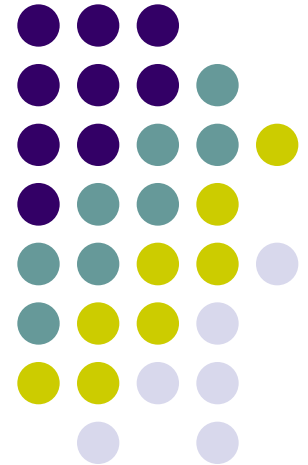
Corporate Finance

Lecture 3: Accounting Review

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HSBC Business School

Peking University





Financial Statements

- Balance Sheet
 - A snapshot of a firm's financial position at one point in time
 - Assets are listed in order of decreasing liquidity
 - Ease of conversion to cash without significant loss of value
 - The balance sheet adheres to an equation that equates assets with the sum of liabilities and shareholder equity.
 - Fundamental analysts use balance sheets to calculate financial ratios.
- Income Statement
- Cash Flow Statement



A Simple Balance Sheet

Total Assets

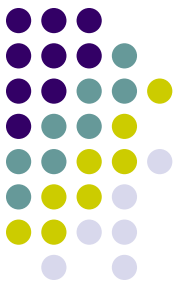
Current Assets
+
Non-Current Assets

Total Liabilities

Current Liabilities
+
Non-Current Liabilities

Total Shareholders' Equity

Share Capital
+
Retained Earnings



Balance Sheet

ASSETS	LIABILITIES
Cash	Notes Payable
Accounts Receivable	Accounts Payable
Inventories	Accrued Expenses
Total Current Assets	Current Portion of LT Debt
	Total Current Liabilities
Gross Fixed Assets	
(Accumulated Depreciation)	Long Term (LT) Debt
Net Fixed Assets	Total Liabilities
Total Assets	Common Stock (at Par & surplus)
	Retained Earnings (Accumulated)
	Total Liabilities and Equity



Assets for non-financial firms

Current Assets

Cash and Cash Equivalents

The most liquid of all assets, cash, appears on the first line of the balance sheet. Cash Equivalents are also lumped under this line item and include assets that have short-term maturities under three months or assets that the company can liquidate on short notice, such as marketable securities. Companies will generally disclose what equivalents it includes in the footnotes to the balance sheet.

Accounts Receivable 应收账款

This account includes the balance of all sales revenue still on credit, net of any allowances for doubtful accounts (which generates a bad debt expense). As companies recover accounts receivables, this account decreases, and cash increases by the same amount.

Inventory 存货

Inventory includes amounts for raw materials, work-in-progress goods, and finished goods. The company uses this account when it reports sales of goods, generally under cost of goods sold in the income statement.



Assets for non-financial firms

Non-Current Assets

Plant, Property, and Equipment (PP&E) 地产厂房及设备

Property, Plant, and Equipment (also known as PP&E) capture the company's tangible fixed assets. The line item is noted net of accumulated depreciation. Some companies will class out their PP&E by the different types of assets, such as Land, Building, and various types of Equipment. All PP&E is depreciable except for Land.

Intangible Assets 无形资产

This line item includes all of the company's intangible fixed assets, which may or may not be identifiable. Identifiable intangible assets include patents, licenses, and secret formulas. Unidentifiable intangible assets include brand and goodwill.



Liabilities for non-financial firms

Current Liabilities

Accounts Payable 应付账款

Accounts Payables, or AP, is the amount a company owes suppliers for items or services purchased on credit. As the company pays off its AP, it decreases along with an equal amount decrease to the cash account.

Current Debt/Notes Payable 流动债务/应付票据

Includes non-AP obligations that are due within one year's time or within one operating cycle for the company (whichever is longest). Notes payable may also have a long-term version, which includes notes with a maturity of more than one year.

Current Portion of Long-Term Debt 长期债务的流动部分

This account may or may not be lumped together with the above account, Current Debt. While they may seem similar, the current portion of long-term debt is specifically the portion due within this year of a piece of debt that has a maturity of more than one year. For example, if a company takes on a bank loan to be paid off in 5-years, this account will include the portion of that loan due in the next year.



Liabilities for non-financial firms

Non-Current Liabilities

Bonds Payable 应付债券

This account includes the amortized amount of any bonds the company has issued.

Long-Term Debt 长期债务

This account includes the total amount of long-term debt (excluding the current portion, if that account is present under current liabilities). This account is derived from the debt schedule, which outlines all of the company's outstanding debt, the interest expense, and the principal repayment for every period.



Liabilities for non-financial firms

Shareholders' Equity

Share Capital 股份资本, 股本

This is the value of funds that shareholders have invested in the company. When a company is first formed, shareholders will typically put in cash. For example, an investor starts a company and seeds it with \$10M. Cash (an asset) rises by \$10M, and Share Capital (an equity account) rises by \$10M, balancing out the balance sheet.

Retained Earnings 留存收益

This is the total amount of net income the company decides to keep. Every period, a company may pay out dividends from its net income. Any amount remaining (or exceeding) is added to (deducted from) retained earnings.

AMAZON.COM, INC.
CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

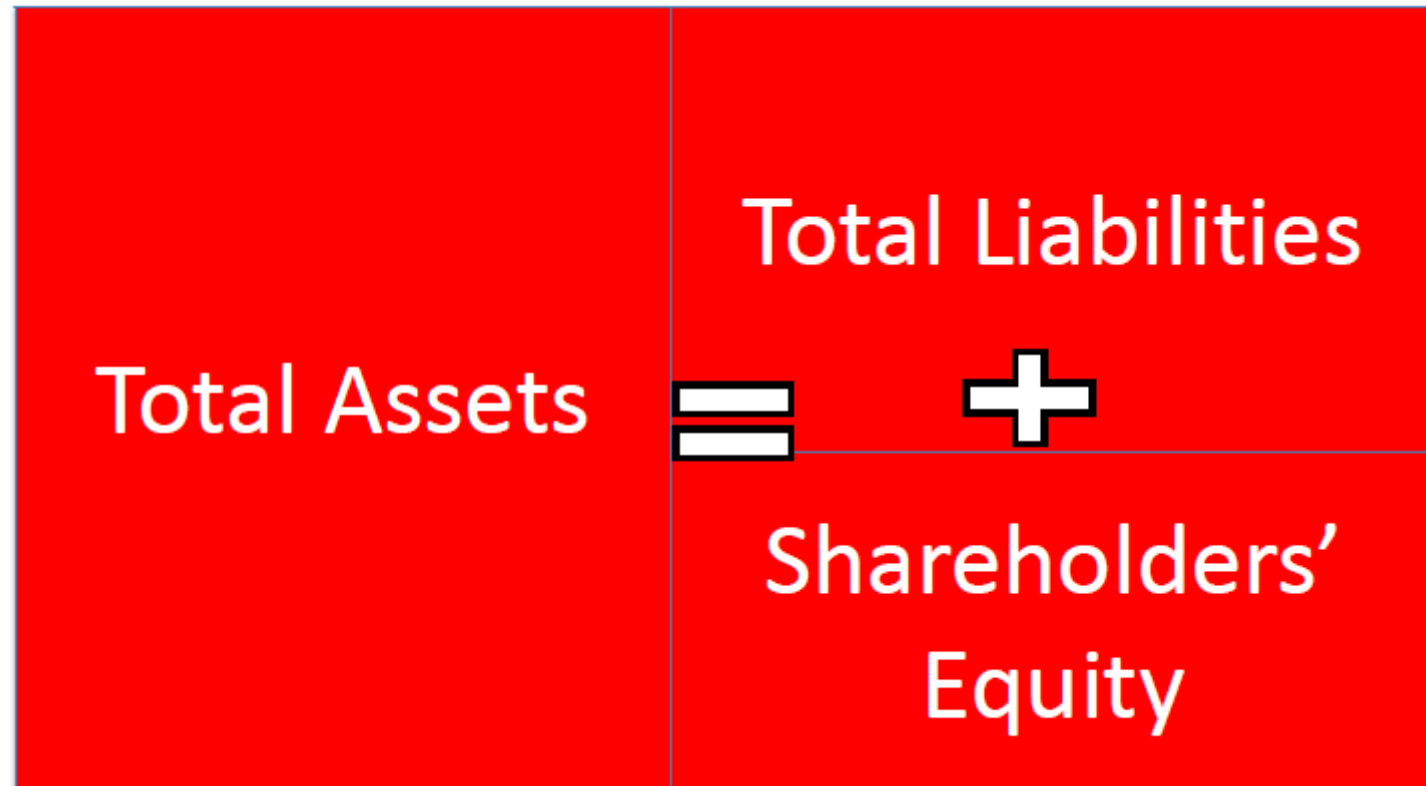
	December 31,	
	2016	2017
<u>ASSETS</u>		
Current assets:		
Cash and cash equivalents	\$ 19,334	\$ 20,522
Marketable securities	6,647	10,464
Inventories	11,461	16,047
Accounts receivable, net and other	8,339	13,164
Total current assets	45,781	60,197
Property and equipment, net	29,114	48,866
Goodwill	3,784	13,350
Other assets	4,723	8,897
Total assets	<u>\$ 83,402</u>	<u>\$ 131,310</u>
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
Current liabilities:		
Accounts payable	\$ 25,309	\$ 34,616
Accrued expenses and other	13,739	18,170
Unearned revenue	4,768	5,097
Total current liabilities	43,816	57,883
Long-term debt	7,694	24,743
Other long-term liabilities	12,607	20,975
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, \$0.01 par value:		
Authorized shares — 500		
Issued and outstanding shares — none	—	—
Common stock, \$0.01 par value:		
Authorized shares — 5,000		
Issued shares — 500 and 507		
Outstanding shares — 477 and 484	5	5
Treasury stock, at cost	(1,837)	(1,837)
Additional paid-in capital	17,186	21,389
Accumulated other comprehensive loss	(985)	(484)
Retained earnings	4,916	8,636
Total stockholders' equity	19,285	27,709
Total liabilities and stockholders' equity	<u>\$ 83,402</u>	<u>\$ 131,310</u>

See accompanying notes to consolidated financial statements.





Balance Sheet Identify





Net Working Capital 净营运资本

- Current Assets – Current Liabilities
- An important component for calculating the company's free cash flow
- It measures a company's liquidity and short-term financial health, indicating the ability to fund operations and respond to financial stress or opportunities.
- A consecutive of negative NWC is a implication for insolvency
- Often a key metrics in M&A 并购重组 deals



Net Working Capital

- High working capital isn't always a good thing. It might indicate that the business has too much inventory, is not investing its excess cash, or is not taking advantage of low-cost debt opportunities.

Something for fun: NWC in M&A deals



Why is NWC included in the purchase price?

Working capital is necessary to maintain the ongoing operations of a business, so most sophisticated buyers include it in the purchase price when they submit an offer. This ensures they have enough working capital to operate the business post-closure and won't need to inject extra money. NWC gives a buyer a clear idea of the level of capital required to keep the business running.

Why a target?

Working capital fluctuates for most businesses and is subject to manipulation. Agreeing on a target reduces friction between the parties by reducing the seller's ability to manipulate it. The buyer and seller can agree on how much working capital to include in the purchase price without worrying about whether the actual amount will vary between signing the letter of intent (LOI) and closing.

Example

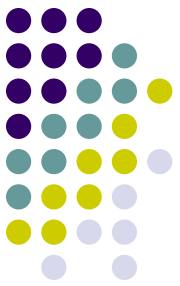


TABLE 2.1
Balance Sheets

U.S. CORPORATION 2014 and 2015 Balance Sheets (\$ in millions)					
Assets			Liabilities and Owners' Equity		
	2014	2015		2014	2015
Current assets			Current liabilities		
Cash	\$ 104	\$ 160	Accounts payable	\$ 232	\$ 266
Accounts receivable	455	688	Notes payable	196	123
Inventory	553	555	Total	\$ 428	\$ 389
Total	<u>\$1,112</u>	<u>\$1,403</u>			
Fixed assets					
Net plant and equipment	<u>\$1,644</u>	<u>\$1,709</u>	Long-term debt	\$ 408	\$ 454
			Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	1,320	1,629
			Total	<u>\$1,920</u>	<u>\$2,269</u>
Total assets	<u>\$2,756</u>	<u>\$3,112</u>	Total liabilities and owners' equity	<u>\$2,756</u>	<u>\$3,112</u>



Market vs. Book Value

- The balance sheet provides the book value of assets, liabilities, and equity.
- Market value is the price at which the assets, liabilities, or equity can actually be bought or sold.
- Market value and book value are often different.
Why?



Example

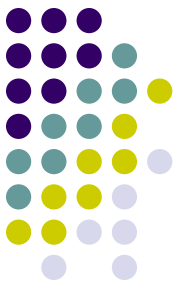
KLINGON CORPORATION Balance Sheets Market Value versus Book Value					
Assets			Liabilities and Shareholders' Equity		
	Book	Market		Book	Market
Net working capital	\$ 400	\$ 600	Long-term debt	\$ 500	\$ 500
Net fixed assets	<u>700</u>	<u>1,000</u>	Shareholders' equity	<u>600</u>	<u>1,100</u>
	<u><u>\$1,100</u></u>	<u><u>\$1,600</u></u>		<u><u>\$1,100</u></u>	<u><u>\$1,600</u></u>

Which one is more important for decision making?



Financial Statements

- Balance Sheet
 - A snapshot of a firm's financial position at one point in time.
- **Income Statement**
 - A video of the firm's operations for a specified period of time.
 - Report revenues first, and then deduct any expenses for the period.
- Cash Flow Statement



Income Statement

Net Sales

- Cost of Goods Sold (COGS)

= **Gross Profit**

- Operating Expenses (exclude Depreciation)

- Depreciation Expenses

= **Operating Profit (EBIT)**

- Interest Expense

= **Profit Before Taxes (EBT)**

- Taxes

= **Net Income**

Gross Prft 毛利润

Operat Exp 营业费用

Depreciation 折旧

Operat Prft 营业利润

EBIT = Earning before
interest and tax, 息
税前利润

Interest Exp 利息支出

Example



TABLE 2.2
Income Statement

U.S. CORPORATION 2015 Income Statement (\$ in millions)		
Net sales		\$1,509
Cost of goods sold		750
Depreciation		<u>65</u>
Earnings before interest and taxes		\$ 694
Interest paid		<u>70</u>
Taxable income		\$ 624
Taxes (34%)		<u>212</u>
Net income		<u><u>\$ 412</u></u>
Dividends	\$103	
Addition to retained earnings	309	

Taxes



- Taxes can be one of the largest cash outflows a firm experiences.
 - CATL (宁德时代) paid \$2.695 billion tax in 2022
- Marginal vs. average tax rates
 - Marginal rate: the percentage paid on the next dollar earned
 - Average rate: the tax bill/taxable income

Example



综合所得的个人所得税税率

自2019年1月1日起，居民个人取得的受雇所得、劳务报酬所得、稿酬所得和特许权使用费所得按年综合计税，以3%至45%的超额累进税率计算应纳税个人所得税：

年度综合所得应纳税所得额 * (人民币)	税率%
不超过36,000	3
超过36,000至144,000的部分	10
超过144,000至300,000的部分	20
超过300,000至420,000的部分	25
超过420,000至660,000的部分	30
超过660,000至960,000的部分	35
超过960,000的部分	45

备注：

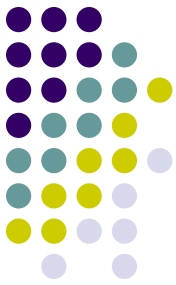
居民个人综合所得应纳税所得额按照每一年度收入额减除费用人民币60,000元以及专项扣除（按照国家规定缴纳的社会保险费和住房公积金等）、专项附加扣除和依法确定的其他扣除计算。

Suppose your taxable income is 400,000 RMB. What is your tax bill? What are the average and marginal tax rates?

Rate	Income	Tax
3%	36,000	1,080
10%	108,000	10,800
20%	156,000	31,200
25%	100,000	25,000
	400,000	68,080

- Average Tax Rate = $68800/400000=17.02\%$
- Marginal Tax Rate = 25%

Example



Progressive Income Tax Rate

Income range	Tax rate %
<36,000	3
36,000 ~144,000	10
144,000~300,000	20
300,000~420,000	25
420,000~660,000	30
660,000~960,000	35
>960,000	45

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	400,000	68,080

- Average Tax Rate = $68800/400000=17.02\%$
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Exercise

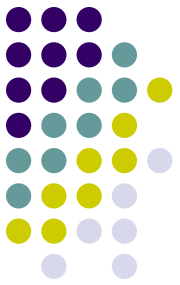


Ch2.11: During the year, the Senbet Discount Tire Company had gross sales of \$865,000. The firm's cost of goods sold and selling expenses were \$455,000 and \$210,000, respectively. The company also had notes payable of \$680,000. These notes carried an interest rate of 4 percent. Depreciation was \$105,000. The tax rate was 21 percent. Suppose the company paid out \$30,000 in cash dividends.

- a) What was the company's net income?
- b) What is the addition to retained earnings?

Exercise

Try it!



Income Statement

Sales	\$865,000
Cost of goods sold	455,000
Selling costs	210,000
<u>Depreciation</u>	<u>105,000</u>
EBIT	\$ 95,000
<u>Interest</u>	<u>27,200</u> ($=\$680,000 \times 4\%$)
Taxable income	\$ 67,800
<u>Taxes</u>	<u>14,238</u> ($=67,800 \times 21\%$)
Net income	\$ 53,562
Dividends	30,000
Addition to retained earnings	\$ 23,562



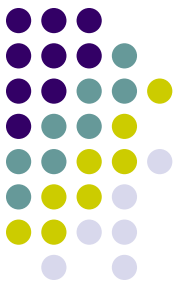
Financial Statements

- Balance Sheet
- Income Statement
- **Cash Flow Statement**
 - The impact of a firm's activities on cash flows over a period of time.
 - Net Income \neq Net Cash Flows
 - Accrual 应计 rather than Cash Accounting
 - Accrual accounting recognizes revenues (expenses) as earned (recognized) when sales (expenses) are transacted (incurred) regardless of the actual date of payment.



Cash Flow Statement

- Focuses on Cash
- Three sections to the Statement of Cash Flows:
 - Cash flows from Operating Activities
 - Cash flows from Investing Activities
 - Cash flows from Financing Activities
- Need information from balance sheet and income statement
 - Inflows → Add
 - Outflows → Subtract



Cash flow statement, direct method

DIRECT METHOD CASH FLOW STATEMENT FOR THE PERIOD ENDED MMM DD, YYYY			
CORE ACTIVITIES	CASH FLOW FROM OPERATING ACTIVITIES	\$	\$
	CASH RECEIPTS FROM CUSTOMERS	X	
	CASH PAID TO SUPPLIERS	(X)	
	CASH PAID TO EMPLOYEES	(X)	
	INTEREST PAID	(X)	
	TAXES PAID	(X)	
	NET CASH INFLOW / (OUTFLOW) FROM OPERATING ACTIVITIES		X/(X)
OUTSIDE CORE ACTIVITIES	CASH FLOW FROM INVESTING ACTIVITIES		
	PURCHASE OF INVESTMENTS / LONG TERM ASSETS	(X)	
	CASH RECEIPTS FROM SALE OF INVESTMENTS / LONG TERM ASSETS	X	
	NET CASH INFLOW / (OUTFLOW) FROM INVESTING ACTIVITIES		X/(X)
FUNDING THE BUSINESS	CASH FLOW FROM FINANCING ACTIVITIES		
	PROCEEDS FROM LONG TERM DEBT	X	
	LONG TERM DEBT PAYMENTS	(X)	
	COMMON STOCK ISSUED	X	
	DIVIDENDS PAID	(X)	
	NET CASH INFLOW / (OUTFLOW) FROM FINANCING ACTIVITIES		X/(X)
	NET INCREASE / (DECREASE) IN CASH		X/(X)
MOVEMENT IN BALANCE SHEET	OPENING CASH AS AT MMM DD, YYYY		X
	CLOSING CASH AS AT MMM DD, YYYY		X
	NET INCREASE / (DECREASE) IN CASH		X/(X)

MIRRORS CASH METHOD
INCOME STATEMENT

LIABILITIES

EQUITY

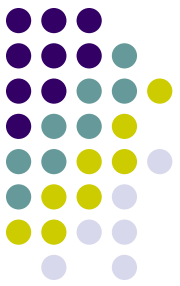


CF from Operating Activities

- Start with the net profit (income) and “modify” until you get the **net operating cash flow**

	Net income from Income Statement (starting point)
+	Depreciation
-	Changes in Accounts receivable, Inventories
+	Changes in Accounts payable, Accruals
=	Net cash flow from operating activities

- Effectively $NI + \text{Depreciation} - \text{change in NWC}$



CASH FLOW FROM OPERATING ACTIVITIES	\$	\$	
NET PROFIT / (LOSS)	X/(X)		→ STEP 1
<i>ADD BACK NON-CASH EXPENSES</i>			
DEPRECIATION & AMORTISATION	X] → STEP 2
(GAIN) / LOSS ON SALE OF NON-CURRENT ASSETS	(X)/X		
<i>ADJUST FOR MOVEMENT IN WORKING CAPITAL</i>			
(INCREASE) / DECREASE IN INVENTORY	(X)/X] → STEP 3
(INCREASE) / DECREASE IN RECEIVABLES	(X)/X		
INCREASE / (DECREASE) IN PAYABLES	X/(X)		
NET CASH INFLOW / (OUTFLOW) FROM OPERATING ACTIVITIES		X/(X)	



CF from Investing Activities

- Buying or selling productive long-lived assets such as plants or equipment
 - Note: the Gross fixed assets, not Net fixed assets
 - Net fixed assets = the gross fixed asset amount - accumulated depreciation.
 - What if the gross fixed assets are not reported?
 - $\text{Change in Gross fixed assets} = \text{Change in Net fixed assets} + \text{Depreciation (on the income statement)}$

	Zero (starting point)
-	Changes in Gross Fixed Assets
=	Net cash flow from investing activities



CF from Financing Activities

- Financing Activities
 - New loans or debt/ Repayment of Principle
 - Sale (issue) or repurchase of stock/ Payment of Dividends

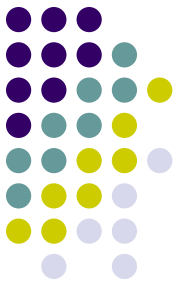
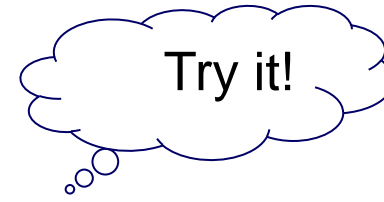
	Zero (starting point)
+	Changes in Notes Payable, Current Portion of LT Debt, Long Term Debt, Common Stock
-	Dividend Payout (= Net Income – Change in Retained Earnings)
=	Net cash flow from financing activities



Useful Relation

$$\begin{aligned} &\text{Net cash flow from } \mathbf{Operating} \text{ Activities} \\ &+ \text{Net cash flow from } \mathbf{Investing} \text{ Activities} \\ &+ \text{Net cash flow from } \mathbf{Financing} \text{ Activities} \\ &\hline &= \mathbf{CHANGE} \text{ in the cash account (balance sheet)} \end{aligned}$$

Exercise



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- a) What was the company's operating cash flow on the accounting statement of cash flows?
- How is the interest payment treated in accounting statement of cash flows?

Exercise



Try it!



Income Statement

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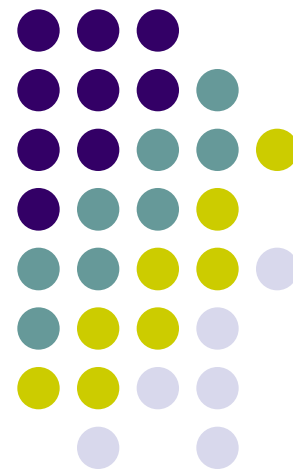


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- a) What was the company's operating cash flow on the accounting statement of cash flows?
- $OCF = \text{Net Income} + \text{Depreciation} = \$53,562 + \$105,000 = \$158,562$
 - How is the interest payment treated in accounting statement of cash flows?
 - Included in the Operating Cash Flows

Financial statements for banks, central banks, and governments

The remaining slides are for your
information, not required in exams





E

A typical non-bank



A typical bank



Financial institution's balance sheet



Assets

- Property
- Trading assets
- Loans to customers
- Deposits to the central bank

Liabilities

- Loans from the central bank
- Deposits from customers
- Trading liabilities
- Misc. debt

Equity

- Common and preferred shares

Loans to customers and deposits from customers



The main operations and source of revenue for banks are their loan and deposit operations. Customers deposit money at the bank for which they receive a relatively small amount of interest. The bank then lends funds out at a much higher rate, profiting from the difference in interest rates.

As such, loans to customers are classified as assets. This is because the bank expects to receive interest and principal repayments for loans in the future and thus generate economic benefit from the loans.

Deposits, on the other hand, are expected to be withdrawn by customers or also pay out interest payments, generating an economic outflow in the future. Deposits from customers are, thus, classified as liabilities.

Loans from central bank and deposits to central bank



In the questions of financial statements for banks, where do these banks store their money? It's like the age-old question: do barbers cut their own hair?

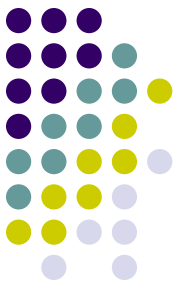
Most countries have a central bank, where most national banks will store their money and profits. Deposits from a bank in a central bank are considered assets, similar to cash and equivalents for a regular company. This is because the bank can withdraw these deposits rather easily. It also expects to receive a small interest payment, using the central bank's prime rate.

Loans from the central bank are considered liabilities, much like normal debt.



Trading assets and liabilities

Banks may hold marketable securities or certain currencies for the purposes of trading. These will naturally be considered trading assets. They may have trading liabilities, which consists of derivative liabilities and short positions.

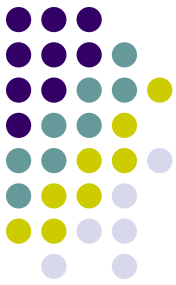


Sample bank balance sheet

Source: Burda & Wyplosz

UniCredit Bank (consolidated), December 31 2015, EUR millions

Assets		Liabilities	
Demand deposits at ECB and cash	10303	Liabilities to central bank*	28412
Financial assets held for trading	90997	Deposits from customers	449790
Loans and receivables with customers	473998	Deposits from other banks	111373
Loans and receivables with banks	80073	Other liabilities	220771
Other assets	285135	Net worth	50087
Total assets	860433	Total liabilities plus net worth	860433



123

Fiscal year is January-December. All values USD Millions.

2023

Total Cash & Due from Banks	27,892
Cash & Due from Banks Growth	-8.05%
Investments - Total	1,788,901
Trading Account Securities	277,354
Federal Funds Sold & Securities Purchased	280,624
Federal Funds Sold	280,624
Treasury Securities	299,311
Mortgage Backed Securities	516,629
Other Securities	56,131
Other Investments	358,852
Investments Growth	5.85%

Asset of Bank of America, 2023, continued

The **loans** are loans made to borrowers, thus are **assets** held by the bank, not liability

Net Loans	1,040,390
Commercial & Industrial Loans	380,283
Consumer & Installment Loans	205,792
Real Estate Mortgage Loans	327,051
Lease Financing Loans	14,854
Foreign Loans	125,752
Loan Loss Allowances (Reserves)	(13,342)
Investment in Unconsolidated Subs.	9,594
Real Estate Other Than Bank Premises	103
Loans - 1 Yr Growth Rate	0.71%
Loans (Total) / Total Deposits	0.00%
Loans (Total) / Total Assets	0.00%
Net Property, Plant & Equipment	21,005
Other Assets (Including Intangibles)	285,924
Other Assets	216,503
Intangible Assets	69,421
Total Assets	3,180,151



Liability of Bank of America, 2023, continued



All values USD Millions.

2023

Total Deposits	1,923,827
Demand Deposits	530,619
Savings/Time Deposits	1,273,904
Foreign Office Deposits	119,304
Deposits Growth	-0.34%
Total Debt	627,971
ST Debt & Current Portion LT Debt	344,669
Current Portion of Long Term Debt	26,737
Short Term Debt	317,932
Long-Term Debt	283,302
LT Debt excl. Capitalized Leases	275,467

Liability of Bank of America, 2023, continued



Provision for Risks & Charges	1,209
Long Term Debt Growth	5.69%
Total Debt / Total Assets	19.75%
Deferred Tax Liabilities	(14,372)
Deferred Taxes - Credit	-
Deferred Taxes - Debit	14,372
Other Liabilities	335,498
Other Liabilities (excl. Deferred Income)	335,498

Equity of BOA



Preferred Stock (Carrying Value)	28,397
Non-Redeemable Preferred Stock	28,397
Common Equity (Total)	263,249
Common Stock Par/Carry Value	56,365
Retained Earnings	224,672
Cumulative Translation Adjustment/Unrealized For. Exch. Gain	(1,047)
Unrealized Gain/Loss Marketable Securities	(2,410)
Other Appropriated Reserves	(14,331)
Common Equity / Total Assets	0.08%
Total Shareholders' Equity	291,646
Total Shareholders' Equity / Total Assets	9.17%
Return On Average Total Equity	9.39%
Total Equity	291,646

Bonus slides: balance sheets of government and central banks



Not required for exams

Help you understand our discussions in the money market

Difference between central banks and government (treasury 财政)

- Monetary policy 货币政策 -> central banks
- Fiscal policy 财政政策 -> government/treasury



Assets of central banks

Government Securities:

- United States treasury bills and treasury notes with a maturity period of 2-10 years for Treasury notes and 4-52 weeks for T-bills. Treasury bonds mature after more than 10 years.

Agency Mortgage-Backed Securities:

- These are packaged securities containing a basket of home loans that the banks and financial institutions sell to investors.
- They are guaranteed by a federal agency or a government-sponsored enterprise (GSE), e.g. Freddie Mac 房利美.



Assets of central banks

Repurchase agreements

Repurchase agreements reflect some of the Federal Reserve's temporary open market operations. Repurchase agreements are transactions in which securities are purchased from a foreign official or others, such as a primary dealer under an agreement to sell them back on a specified date in the future. The difference between the purchase price and the repurchase price reflects an interest payment.

The Federal Reserve may enter into repurchase agreements for up to 65 business days, but the typical maturity is between one and 14 days. Federal Reserve repurchase agreements supply reserve balances to the banking system for the length of the agreement. The Federal Reserve employs a naming convention for these transactions based on the perspective of the foreign and international monetary authorities under the FIMA Repo Facility and others, such as primary dealers: the dealers receive cash while the Federal Reserve receives the collateral.



Liabilities of central banks

United States Dollars (Currency In Circulation):

The US dollars in circulation in the economy of the United States are historically the biggest

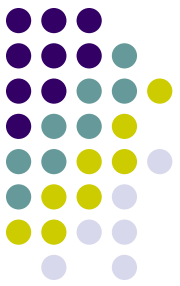
Money In The Reserves: The member commercial banks, along with the depository institutions, have money in their reserves which is also a liability on the balance sheet.

Liabilities of federal reserve (US central bank)



Reverse repurchase agreements

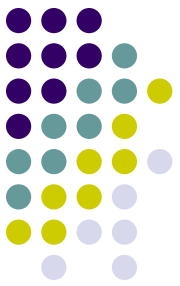
Reverse repurchase agreements are transactions in which securities are sold to a set of counterparties under an agreement to buy them back from the same party on a specified date at the same price plus interest. Reverse repurchase agreements may be conducted with foreign official and international accounts as a service to the holders of these accounts. All other reverse repurchase agreements, including transactions with primary dealers and other counterparties who have been established specifically to transact in reverse repurchase agreements, are open market operations intended to manage the supply of reserve balances; reverse repurchase agreements absorb reserve balances from the banking system for the length of the agreement. As with repurchase agreements, the naming convention used here reflects the transaction from the counterparties' perspective; the Federal Reserve receives cash in a reverse repurchase agreement and provides collateral to the counterparties.



Fed's balance sheet

Table 1. Assets, liabilities, and capital of the Federal Reserve System
(\$ billions)

Item	March 27, 2024	September 27, 2023	Change from September 27, 2023
Total assets	7,485	8,002	-517
Securities held outright	7,009	7,440	-431
U.S. Treasury securities	4,618	4,958	-340
Federal agency debt securities	2	2	0
Agency mortgage-backed securities	2,388	2,480	-92
Repurchase agreements	0	0	0
Foreign official	0	0	0
Other	0	0	0
Loans	142	198	-56
Discount window	6	3	3
Bank Term Funding Program	133	108	25
Paycheck Protection Program Liquidity Facility	3	5	-2
Other credit extensions	0	82	-82
Net portfolio holdings of Main Street Facilities LLC	15	19	-4
Net portfolio holdings of Municipal Liquidity Facility LLC	0	6	-6
Net portfolio holdings of Term Asset-Backed Securities Loan Facility II LLC	0	1	-1
Central bank liquidity swaps	0	0	0
Other assets	319	337	-18



Fed's balance sheet

Total liabilities	7,442	7,959	-517
Federal Reserve notes	2,293	2,273	20
Deposits held by depository institutions other than term deposits	3,472	3,169	303
Reverse repurchase agreements	873	1,755	-882
Foreign official and international accounts	354	312	42
Others	518	1,443	-925
U.S. Treasury, General Account	772	672	100
Treasury contributions to credit facilities	7	13	-6
Other liabilities	24	77	-53
Total capital	43	43	0
Note: Components may not sum to totals because of rounding. Source: Federal Reserve Board.			



Equity of central bank

Capital paid in

Banks that are members of the Federal Reserve System make payments for Federal Reserve Bank capital stock. Each member is required by law to become a shareholder and subscribe to shares of its district Reserve Bank in an amount equal to 6 percent of its own paid-in capital and surplus. Of this amount, half must be paid to the Federal Reserve and half remains subject to call by the Board of Governors. When a member's capital or surplus changes, its holdings of Reserve Bank

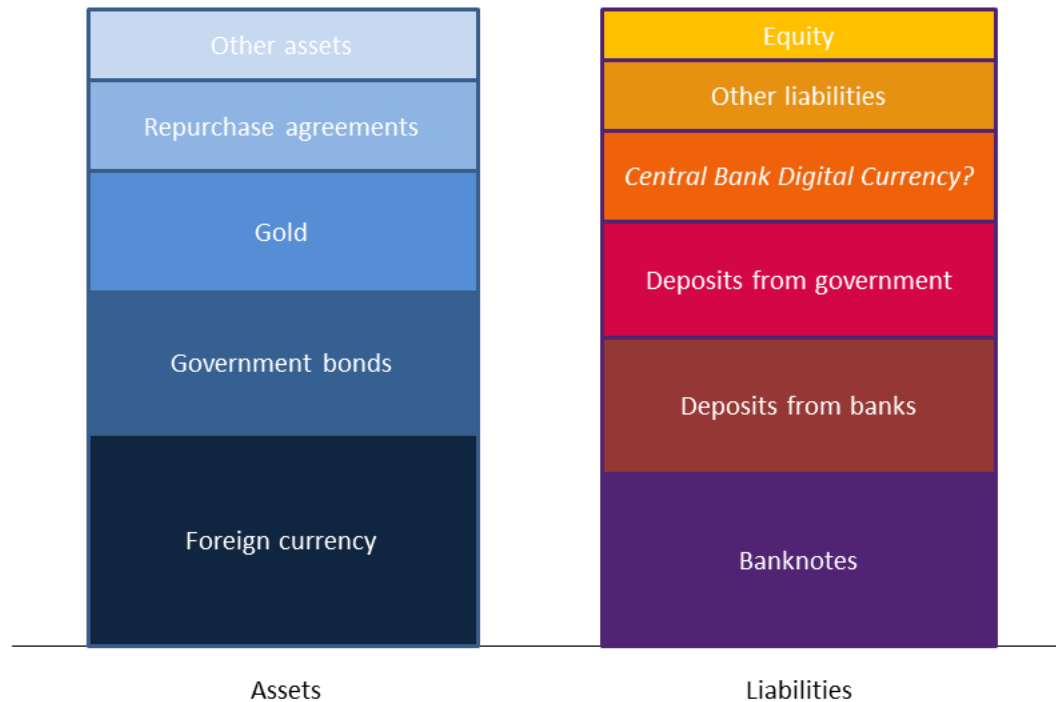


Balance sheet for central banks

Assets	Liabilities and capital
Foreign assets	Reserve money
Domestic assets	Currency in circulation
Claims on government & public enterprises	Reserves of commercial banks
Claims on the private sector	Foreign liabilities
Claims on domestic money banks	Other deposits of commercial banks, etc
Claims on other financial sector entities	Central bank securities, etc
	Government deposits
	Others
	Equity capital



Central bank balance sheet



Hypothetical central bank balance sheet

项目 Item	2023. 01
国外资产 Foreign Assets	228513.62
外汇 Foreign Exchange	216249.25
货币黄金 Monetary Gold	3169.49
其他国外资产 Other Foreign Assets	9094.88
对政府债权 Claims on Government	15240.68
其中：中央政府 Of which: Central Government	15240.68
对其他存款性公司债权 Claims on Other Depository Corporations	148166.96
对其他金融性公司债权 Claims on Other Financial Corporations	1548.67
对非金融性部门债权 Claims on Non-financial Sector	
其他资产 Other Assets	28594.78
总资产 Total Assets	422064.71
储备货币 Reserve Money	358910.69
货币发行 Currency Issue	122673.18
金融性公司存款 Deposits of Financial Corporations	209148.22
其他存款性公司存款 Deposits of Other Depository Corporations	209148.22
其他金融性公司存款 Deposits of Other Financial Corporations	
非金融机构存款 Deposits of Non-financial Institutions	27089.29
不计入储备货币的金融性公司存款 Deposits of financial corporations excluded from Reserve Money	5228.84
发行债券 Bond Issue	950.00
国外负债 Foreign Liabilities	1925.11
政府存款 Deposits of Government	47736.54
自有资金 Own Capital	219.75
其他负债 Other Liabilities	7093.77
总负债 Total Liabilities	422064.71

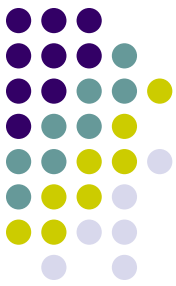




货币当局资产负债表
Balance Sheet of Monetary Authority

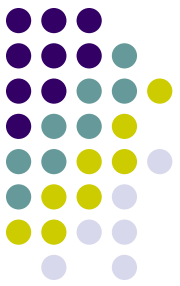
单位：亿元人民币
Unit: 100 Million Yuan

项目 Item	2023. 01	2023. 02	2023. 03	2023. 04	2023. 05	2023. 06	2023. 07	2023. 08	2023. 09	2023. 10	2023. 11	2023. 12
国外资产 Foreign Assets	228513.62	229061.80	230941.18	231338.37	231469.31	231574.38	231736.57	231576.32	230938.68	232046.26	232796.52	233548.51
外汇 Foreign Exchange	216249.25	216182.12	217893.63	217895.06	217822.22	217733.71	217824.72	217673.89	218095.08	219002.12	219763.93	220453.85
货币黄金 Monetary Gold	3169.49	3270.77	3349.50	3385.10	3455.76	3539.95	3633.25	3750.44	3855.33	3953.79	4009.97	4052.88
其他国外资产 Other Foreign Assets	9094.88	9608.91	9698.05	10058.21	10191.33	10300.72	10278.60	10151.99	8988.26	9090.35	9022.62	9041.78
对政府债权 Claims on Government	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68
其中：中央政府 Of which: Central Government	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68	15240.68
对其他存款性公司债权 Claims on Other Depository Corporations	148166.96	143390.44	146628.42	137902.30	131711.72	143449.64	135783.71	146836.22	158157.05	163237.95	169884.80	185561.01
对其他金融性公司债权 Claims on Other Financial Corporations	1548.67	1551.26	1564.52	1562.72	1565.50	1559.25	1363.19	1359.52	1341.33	1331.18	1335.32	1310.90
对非金融性部门债权 Claims on Non-financial Sector												
其他资产 Other Assets	28594.78	28435.17	26632.46	26610.13	26433.63	26238.89	23967.53	21827.70	21677.15	21403.73	21397.31	21283.04
总资产 Total Assets	422064.71	417679.36	421007.27	412654.20	406420.84	418062.84	408091.68	416840.45	427354.89	433259.80	440654.63	456944.14
储备货币 Reserve Money	358910.69	350383.69	364071.50	351668.92	344206.59	365235.34	347843.94	353555.18	363920.94	350659.11	363160.01	389036.93
货币发行 Currency Issue	122673.18	113860.09	110936.84	110903.21	109771.27	110311.22	111060.85	111437.81	114478.45	113544.31	115073.49	118660.94
金融性公司存款 Deposits of Financial Corporations	209148.22	213456.77	230382.81	217622.83	211438.10	231388.96	213840.69	218102.93	224684.87	213551.71	224098.75	245687.45
其他存款性公司存款 Deposits of Other Depository Corporations	209148.22	213456.77	230382.81	217622.83	211438.10	231388.96	213840.69	218102.93	224684.87	213551.71	224098.75	245687.45
其他金融性公司存款 Deposits of Other Financial Corporations												
非金融机构存款 Deposits of Non-financial Institutions	27089.29	23066.82	22751.85	23142.88	22997.23	23535.15	22942.40	24014.44	24757.62	23563.08	23987.76	24688.54
不计入储备货币的金融性公司存款 Deposits of financial corporations excluded from Reserve Money	5228.84	5962.73	6104.75	6492.51	6409.08	6781.46	6372.25	6916.63	5771.05	6367.56	5732.88	6038.42
发行债券 Bond Issue	950.00	950.00	950.00	1000.00	950.00	950.00	950.00	1050.00	1150.00	1150.00	1250.00	1250.00
国外负债 Foreign Liabilities	1925.11	1571.72	1652.61	1503.96	1943.93	1458.24	1486.56	1855.27	3539.93	4459.43	4402.85	3062.34
政府存款 Deposits of Government	47736.54	51300.31	41318.08	44984.57	46016.90	36873.70	45154.97	44706.43	43978.84	60559.97	55036.02	46291.74
自有资金 Own Capital	219.75	219.75	219.75	219.75	219.75	219.75	219.75	219.75	219.75	219.75	219.75	219.75
其他负债 Other Liabilities	7093.77	7291.16	6690.57	6784.49	6674.58	6544.37	6064.21	8537.19	8774.38	9843.99	10853.11	11044.96
总负债 Total Liabilities	422064.71	417679.36	421007.27	412654.20	406420.84	418062.84	408091.68	416840.45	427354.89	433259.80	440654.63	456944.14



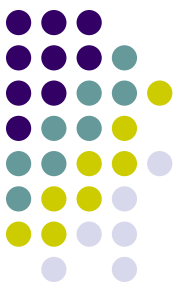
US government balance sheet

(In billions of dollars)	2021	Restated 2020
Assets:		
Cash and other monetary assets (Note 2)	475.0	1,926.9
Accounts receivable, net (Note 3)	401.0	321.2
Loans receivable, net (Note 4)	1,651.0	1,577.4
Inventory and related property, net (Note 5)	399.2	381.9
General property, plant and equipment, net (Note 6)	1,176.9	1,139.9
Investments (Note 7)	135.2	129.8
Investments in special purpose vehicles (Note 8)	26.4	108.4
Investments in government-sponsored enterprises (Note 9)	220.9	108.9
Advances and prepayments (Note 10)	369.3	218.6
Other assets (Note 11)	38.7	42.7
Total assets	4,893.6	5,955.7



US government balance sheet

Liabilities:		
Accounts payable (Note 12)	123.1	99.0
Federal debt and interest payable (Note 13)	22,344.8	21,082.9
Federal employee and veteran benefits payable (Note 14)	10,183.0	9,415.5
Environmental and disposal liabilities (Note 15)	613.3	602.7
Benefits due and payable (Note 16)	273.9	256.3
Loan guarantee liabilities (Note 4)	230.7	520.1
Insurance and guarantee program liabilities (Note 17)	129.8	199.3
Advances from others and deferred revenues (Note 18)	202.0	174.2
Other liabilities (Note 19)	677.1	394.0
Total liabilities	34,777.7	32,744.0



Put four balance sheets together

Initial Balance Sheet Conditions

FEDERAL RESERVE	
Assets	Liabilities
Treasury securities	Reserves held by banks
	Cash held by the Treasury

TREASURY	
Assets	Liabilities
Cash held at the Fed	Treasury securities

BANKING SECTOR	
Assets	Liabilities
Treasury securities	Deposits
Reserves at the Fed	

PUBLIC	
Assets	Liabilities
Deposits	Wealth
Treasury securities	

Notes: The "wealth" term equals assets less liabilities—akin to "equity" in the case of a corporation. Since this value is ultimately owed to a specific party—be it the members of a household or, in the case of equity, the owners of a corporation—it is listed as a liability on the public's balance sheet, as is standard practice in accounting.



Put four balance sheets together

The Fed Purchases Assets from Banks

Balance Sheet Effects

FEDERAL RESERVE	
Assets	Liabilities
Treasury securities +\$1	Reserves held by banks +\$1
	Cash held by the Treasury

TREASURY	
Assets	Liabilities
Cash held at the Fed	Treasury securities

BANKING SECTOR	
Assets	Liabilities
Treasury securities -\$1	Deposits
Reserves at the Fed +\$1	

PUBLIC	
Assets	Liabilities
Deposits	Wealth
Treasury securities	

Note: Linked effects are assigned the same color.



The Fed Purchases Assets from the Public

Balance Sheet Effects

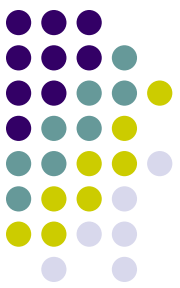
FEDERAL RESERVE	
Assets	Liabilities
Treasury securities +\$1	Reserves held by banks +\$1
	Cash held by the Treasury

TREASURY	
Assets	Liabilities
Cash held at the Fed	Treasury securities

BANKING SECTOR	
Assets	Liabilities
Treasury securities	Deposits +\$1
Reserves at the Fed +\$1	

PUBLIC	
Assets	Liabilities
Deposits +\$1	Wealth
Treasury securities -\$1	

Note: Linked effects are assigned the same color.



Banks Purchase New Treasury Securities

Balance Sheet Effects

FEDERAL RESERVE	
Assets	Liabilities
Treasury securities −\$1	Reserves held by banks −\$1
	Cash held by the Treasury

TREASURY	
Assets	Liabilities
Cash held at the Fed	Treasury securities

BANKING SECTOR	
Assets	Liabilities
Treasury securities +\$1	Deposits
Reserves at the Fed −\$1	

PUBLIC	
Assets	Liabilities
Deposits	Wealth
Treasury securities	

Note: Linked effects are assigned the same color.



The Public Purchases New Treasury Securities

Balance Sheet Effects

FEDERAL RESERVE	
Assets	Liabilities
Treasury securities -\$1	Reserves held by banks -\$1
	Cash held by the Treasury

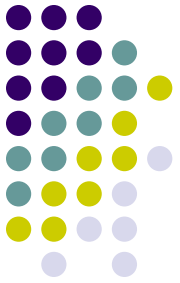
TREASURY	
Assets	Liabilities
Cash held at the Fed	Treasury securities

BANKING SECTOR	
Assets	Liabilities
Treasury securities	Deposits -\$1
Reserves at the Fed -\$1	

PUBLIC	
Assets	Liabilities
Deposits -\$1	Wealth
Treasury securities +\$1	

Note: Linked effects are assigned the same color.

Income statements





Income statement of banks

Non-interest Revenue

Interest Revenue

Total Revenue

Credit loss provisions

Net gain on trading assets/liabilities

EBIT

Interest Expense

Income Before Tax (EBT)

Taxes

Net Income



Non-interest Revenue

Non-interest revenues consist of ancillary revenue the bank makes in supporting its services. This can consist of:

- Broker fees
- Commissions and fees from products and services
- Underwriting fees
- Gain on sale of trading assets
- Other customer fees (NSF fees, swipe fees, overdrawn fees)

These revenues come from anything that does not constitute interest revenue.



Interest Revenue

Interest revenue captures the interest payments the bank receives on the loans it issues.

Sometimes, this line item will only state gross interest revenue. Other times, this line will consolidate gross interest revenue and deduct interest expense to find net interest revenue.

This [interest expense](#) is the direct interest expense paid to the deposits used to fund the loans, and does not include interest expense from general debt.



Credit Loss Provisions

Just like accounts receivables and bad debt expense, a company must prepare in the event that borrowers are not able to pay off their loans. These bad pieces of credit are written off in the income statement as a provision for credit loss.

Bank of America Corporation and Subsidiaries

Consolidated Statement of Income

(Dollars in millions, except per share information)

	2017
Interest income	
Loans and leases	\$ 36,221
Debt securities	10,471
Federal funds sold and securities borrowed or purchased under agreements to resell	2,390
Trading account assets	4,474
Other interest income	4,023
Total interest income	57,579
Interest expense	
Deposits	1,931
Short-term borrowings	3,538
Trading account liabilities	1,204
Long-term debt	6,239
Total interest expense	12,912
Net interest income	44,667
Noninterest income	
Card income	5,902
Service charges	7,818
Investment and brokerage services	13,281
Investment banking income	6,011
Trading account profits	7,277
Mortgage banking income	224
Gains on sales of debt securities	255
Other income	1,917
Total noninterest income	42,685
Total revenue, net of interest expense	87,352
Provision for credit losses	3,396
Noninterest expense	
Personnel	31,642
Occupancy	4,009
Equipment	1,692
Marketing	1,746
Professional fees	1,888
Data processing	3,139
Telecommunications	699
Other general operating	9,928
Total noninterest expense	54,743
Income before income taxes	29,213
Income tax expense	10,981
Net income	\$ 18,232

