FIN204-Week3-Ch4-12310903刘华杰

4.LaunchPad. In the nation of Wiknam, people hold $1,000 of currency and $4,000 of demand deposits in a bank called Wikbank. The reserve-deposit ratio is 0.25.

a. What are the money supply, the monetary base, and the money multiplier?

货币供给：

经济中可用的货币总量=居民现金（包括贷款）+银行需求存款（减去美联储储备）=1000+12000+3000=$16000

货币基础：

经济中发行的货币总量=居民现金（除去贷款）+银行需求存款
=1000+4000=$5000

货币乘数=存款准备金率的倒数=$\frac{1}{0.25} = 4$

b. Assume that Wikbank is a simple bank: it takes in deposits, makes loans, and has no capital. Show Wikbank's balance sheet. What value of the bank's assets as reserves at the Fed does the bank have outstanding?

资产负债表将如下所示：

资产：

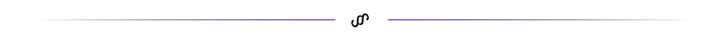贷款：$\frac{\$3000}{0.25} = \$12000$

美联储储备：$4000\$\times 0.25 = \$1000$

(需要不补课)

负债：

需求存款：$4000

c. Wiknam's central bank wants to increase the money supply by 10 percent. Should it buy or sell government bonds in open-market operations? Assuming no change in the money multiplier, calculate, in dollars, how much the central bank needs to transact.

政府进行公开市场购买，增加货币供应。

货币供应 $ 16000 -> $ 17600 (+$ 1600)
因此政府需要进行公开市场购买操作，购买$1600的国债

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5.LaunchPad. In the economy of Panicia, the monetary base is $1,000. People hold a third of their money in the form of currency (and thus two-thirds as bank deposits). Banks hold a third of their deposits in reserve. 先计算现金，储蓄和准备金等数据

- People
  Currency(+Loan) = $1000\$ \times (1 - \frac{1}{3})$ +$1000\$ \times \frac{2}{3} = \$1000 \times \frac{4}{3}$
  Deposits = $1000\$ \times \frac{1}{3}$
- Bank
  Reserve = $1000\$ \times \frac{1}{3} \times \frac{1}{3}$
  Loan = $1000\$ \times \frac{1}{3} \times (1 - \frac{1}{3}) \times \frac{1}{\frac{1}{3}} = 1000\$ \times \frac{2}{3}$
  Debt = $1000\$ \times \frac{1}{3}$

a. What are the reserve-deposit ratio, the currency-deposit ratio, the money multiplier, and the money supply?

- The reserve-deposit ratio储备-存款比例
  rr = 1/3 = 0.333
- the currency-deposit ratio货币-存款比例
  cr = 2
- the money multiplier货币乘数
  $m = \frac{cr+1}{cr+rr}$ = 2.25
- the money supply货币供应量
  Money Supply: M= $m \times B$ =2.25 $\times$
  b. One day, fear about the banking system strikes the population, and people now want to hold half their money in the form of currency. If the central bank does nothing, what is the new money supply?

新的现金(New Currency)

$$\text{New Currency} = 1000 \times \tfrac{1}{2} = \$500$$

新准备金（New Reserve）：

$$\text{New Reserve} = 500 \times \tfrac{1}{3} = 500 \times \tfrac{1}{3} = 166.67$$

新存款（New Deposits）：

$$\text{New Deposits} = 500 \times \tfrac{1}{2} = 500 \times \tfrac{1}{2} = 250$$

新贷款（New Loans）：

$$\text{New Loans} = 250 \times \left(1 - \tfrac{1}{3}\right) \times \left(\tfrac{1}{\frac{1}{3}}\right) = 250 \times \tfrac{2}{3} \times 3 = 500$$

新的货币供应量（New Money Supply）将是：

$$NewM = \text{新现金}(\text{New C}) + \text{新存款}(\text{New D}) = 500 + 500 + 250 = \$750$$

c. If, in the face of this panic, the central bank wants to conduct an open-market operation to keep the money supply at its original level, does it buy or sell government bonds? Calculate, in dollars, how much the central bank needs to transact.

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9.LaunchPad

Jimmy Paul Miller starts his own bank, called JPM. As owner, Jimmy puts in $2,000 of his own money. JPM then borrows $4,000 in a long-term loan from Jimmy's uncle, accepts $14,000 in demand deposits from his neighbors, buys $7,000 of U.S. Treasury bonds, lends $10,000 to local businesses to finance new investments, and keeps the remainder of the bank's assets as reserves at the Fed.

a. Show JPM's balance sheet. What is JPM's leverage ratio?

资产负债表如下：

资产	金额
现金	$2,000
国债	$7,000

资产	金额
贷款	$10,000
总计	$19,000

负债	金额
长期贷款	$4,000
需求存款	$14,000
总计	$18,000

杠杆比率 = $19,000 / $2,000 = 9.5

b. An economic downturn causes 5 percent of the local businesses to declare bankruptcy and default on their loans. Show JPM's new balance sheet. By what percentage does the value of JPM's assets fall? By what percentage does JPM's capital fall?

贷款损失 = $10,000 * 5% = $500
资产端改变

资产	金额
现金	$2,000
国债	$7,000
贷款	$9,500
总计	$18,500

负债端未变

负债	金额
长期贷款	$4,000
需求存款	$14,000
总计	$18,000

资产价值下降的百分比：
($500 / $19,000) * 100% ≈ 2.63%