**AP Krugman Section 5 Problem Solutions**

**1.** In a closed economy, investment spending is equal to GDP minus consumer spending

minus government purchases of goods and services. In Brittania, investment spending is

$50 million:

*I* = GDP − *C* − *G*

*I* = $1,000 million − $850 million − $100 million = $50 million

Private savings is equal to disposable income (income net of taxes—and recall that there

are no government transfers) minus consumer spending. In Brittania, private savings is

$100 million:

Private savings = GDP − *T* − *C* = $1,000 million − $50 million − $850 million =

$100 million

The budget balance is equal to tax revenue minus government purchases of goods and

services. In Brittania, the government is running a budget deficit of $50 million:

Budget balance = *T* − *G* = $50 million − $100 million = −$50 million

National savings is the sum of private savings and the budget balance; that is, it is $100

million − $50 million = $50 million. So investment spending does equal national savings.

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**2. a.** When Rupert Moneybucks buys 100 shares of existing Coca-Cola stock, he is

investing in a financial asset. He has a paper claim that entitles him to future income from

Coca-Cola. It is not an example of investment spending because it does not add to the

stock of physical capital in the economy.

**b.** When Rhonda Moviestar spends $10 million to buy a mansion built in the 1970s, she

is investing in a physical asset; she has bought something that she has the right to use or

to dispose of as she wishes. It is not an example of investment spending because it does

not add to the stock of physical capital in the economy—the mansion was pre-existing.

**c.** When Ronald Basketballstar spends $10 million to build a new mansion with a view of

the Pacific Ocean, he has engaged in investment spending because he has added to the

amount of housing in the economy.

**d.** When Rawlings builds a new plant to make catcher’s mitts, it has engaged in

investment spending because it has added to the economy’s stock of physical capital.

**e.** When the government of Russia buys $100 million in U.S. government bonds, it has

invested in a financial asset. The Russian government has a paper claim on the United

States that entitles it to future income. It is not an example of investment spending

because it does not add to the stock of physical capital in either economy.

**3.** A well-functioning financial system increases both the supply of loanable funds and

the demand for loanable funds in three ways. (1) It reduces the transaction costs of

making financial deals incurred by either lenders or borrowers. (2) It reduces the risk

associated with making investments or engaging in investment spending. (3) By

increasing the liquidity of financial assets, it makes saving and the purchasing of financial

assets more attractive to potential lenders, which increases investment spending.

**4.** Mutual funds, pension funds, life insurance companies, and banks are the most

important types of financial intermediaries in the U.S. economy. Mutual funds are

companies that buy stocks of other companies (the mutual funds companies’ primary

assets) and resell shares of the portfolio composed of those stocks to individual investors.

Pension funds are a type of mutual fund that hold financial assets of other companies (the

pension funds’ primary assets) and sell shares to individual savers for retirement income.

A life insurance company also holds financial assets (the life insurance company’s

primary assets) and sells policies that guarantee a payment to a policyholder’s beneficiary

when the policyholder dies. A bank makes loans to individuals and corporations (the

bank’s primary assets) and accepts deposits from the public that are payable on demand.

By either reducing risk through diversification (mutual funds, pension funds), reducing

risk through insurance (life insurance companies), lowering transaction costs (mutual

funds, pension funds), or providing liquidity (banks), these financial intermediaries

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facilitate savings and investment spending.

**5. a.** Shares of stock are not a component of either M1 or M2, so holding fewer shares

does not decrease either M1 or M2. However, depositing the money into your savings

account increases M2, since the savings account is part of M2 (but not part of M1). M1

does not change.

**b.** Shares of stock are not a component of either M1 or M2, and so holding fewer shares

does not decrease either M1 or M2. However, depositing the money into your checking

account increases M1, since checking accounts are part of M1. It also increases M2, since

M1 is part of M2.

**c.** Moving money from savings to checking has no effect on M2, since both savings

accounts and checking accounts are included in M2. However, since savings accounts are

not part of M1, moving money from savings to checking does increase M1.

**d.** Depositing cash into a checking account does not change M1 or M2. You are simply

transferring money from one component of M1 (currency in circulation) to another

component of M1 (checkable deposits).

**e.** Depositing $0.25 into your savings account has no effect on M2, since both savings

accounts and currency in circulation are in M2. However, since savings accounts are not

part of M1, depositing the $0.25 into your savings account reduces M1.

**6. a.** A bottle of rum is commodity money since the rum has other uses.

**b.** Salt is commodity money since it has other uses.

**c.** The “Rye Mark” is commodity-backed money since its ultimate value is guaranteed

by a promise that it can be converted into valuable goods (rye grain).

**d.** Ithaca HOURS are fiat money because their value derives entirely from their status

as a means of payment in Ithaca.

**7. a.** $95 on your campus meal card is similar to a gift certificate. Because it can only be

used for one purpose, it is not part of either M1 or M2.

**b.** $0.55 in the change cup of your car is part of currency in circulation; it is part of both

M1 and M2.

**c.** $1,663 in your savings account isn’t directly usable as a medium of exchange, so it is

not part of M1; but because it can readily be converted into cash or checkable deposits, it

is part of M2.

**d.** A $459 balance in your checking account is part of both M1 and M2; it represents a

checkable deposit.

**e.** 100 shares of stock are not part of either M1 or M2. Although an asset, stock is not a

highly liquid asset.

**f.** A $1,000 line of credit on your Sears credit card account is not part of either M1 or M2

because it does not represent an asset.