Answers to Econ 1120 Prelim 2 <u>MAKEUP</u> Fall 2017 WISSINK

1. D
Plug Y=1000 into the consumption function we get C=400+0.5*1000=900. Therefore the desired expenditure=900+I=1025, which is bigger than the actual aggregated income. Therefore, aggregated income tends to increase and D is correct. Meanwhile, there will be unplanned decrease in inventory and the economy is not in equilibrium. So A, B, C and E are incorrect.

2. C
The government expenditure will increase total aggregated desired expenditure. Originally, the aggregated desired expenditure is equal to actual aggregated expenditure. Now the desired expenditure is bigger. Therefore, there will be an decrease in unplanned expenditure.

3. C
By the identity $Y^d = C + S$, we can solve for the saving function: $S = Y^d – C = Y^d – (500 + 0.6Y^d) = -500 + 0.4Y^d$.

4. E.
To obtain multipliers, set $Y^*= C(Y^*)+Id+G+X-IM$ and solve for Y^* and then look at the coefficients on the exogenous variables.

5. B
Graphing the saving and investment functions, it can be seen that, when the saving function shifts upwards, equilibrium savings will decrease.

6. B.
Fiat money is intrinsically worthless. However, it is used as means of payment and a store of value because the government ensures that it is accepted for settlement of debts and exchanged for good and services.

7. D
Savings accounts are not liquid enough to be counted in M1. They are however counted in M2.

8. B
M1= currency +demand deposits + traveler's checks +other checkable deposits. M2= M1+savings accounts + money market accounts +other near monies.

9. B
Required Reserves are 800*0.25=200. Assets=liabilities + net worth. So loans=1000.

10. D
Note that the money multiplier= 1/rrr= 1/0.05=20. Since change in demand deposits= money multiplier*change in reserves, the ultimate increase in demand deposits= 20*$100= $2000.

11. D
Note that bond prices are inversely related to interest rates. As the quantity of money supplied exceeds the quantity of money demanded, bond prices increase and interest rate decreases.

12. D
As the money supply curve shifts to the "right" or "out," the equilibrium interest rate decreases. With lower interest rate, we have larger planned investments (as planned investments is a function of interest rate). This leads to larger AE^d and Y^*.

13. E
Expansionary fiscal policy results in higher interest rate, and expansionary monetary policy results in lower interest rate. So, the effect on interest rate is ambiguous. Since the effect on interest rate is ambiguous, the effect of desired investments is also ambiguous as desired investments is a function of interest rate. Expansionary fiscal and monetary policy increase Y. And, since C is positively related to Y, C also increases.

14. C
The crowding-out effect is the tendency for increases in government spending to cause reductions in private investment spending due to higher interest rate. If desired investments is very insensitive to changes in interest rate, then the crowding-out effect would be small.

Answers:

91.

6 a. $Y = AE^d = C + I^d + G + EX - IM$

$$= \bar{C} + c(Y-\bar{T}) + \bar{G} + \bar{EX} - (\bar{IM} + m(Y-\bar{T})) + \bar{I}$$

(where c is MPC and m is marginal propensity to "import")

$$(1-c+m)Y = \bar{C} + (m-c)\bar{T} + \bar{G} + \bar{EX} - \bar{IM} + \bar{I}$$

$$\therefore Y^* = \frac{m-c}{1-c+m}\bar{T} + \frac{1}{1-c+m}(\bar{C} + \bar{G} + \bar{EX} + \bar{I} - \bar{IM})$$

$$\therefore K_G = K_I = \frac{1}{1-c+m} = \frac{1}{1-0.8+0.05} = \frac{1}{0.25} = 4$$

$$K_T = \frac{m-c}{1-c+m} = \frac{0.05-0.8}{1-0.8+0.05} = -\frac{0.75}{0.25} = -3$$

3 b. $Y^* = -3(5000) + 4(20000 + 8000 + 1000 - 100 + 4000)$

$$= \$116,600$$

2 c. The government budget surplus/deficit is: $G - T$
(deficit if positive, surplus, if negative).

∴ At the current level of Y^*, $\bar{G} - \bar{T} = 3000$

⇒ Deficit of $3,000.

4 d. G and T increase by the same amount, $2,000, so in order to see what would happen to Y^*, we can use K_{BB}.

$K_{BB} = K_G + K_T = 4 - 3 = 1$. Thus, Y^* will increase by $2,000 as well. As for government deficit, $G - T$ is still $3,000, so there would be no change in the government deficit.

4 e. We need to increase Y^* by $Y^{FE} - Y^* = 120,000 - 116,600 = \$3,400$. $K_G = 4$, so if G is only used, G needs to increase by $850 to achieve $3,400 increase of Y^*: $4 \cdot 850 = 3400$.

:9 Answers:

2. 2 a. $M1 = \text{currency} + DD_p = 900 + 400 = \$1,300.$

2 b. $\Delta M_S = \Delta DD_p = K_M \cdot (-5) = \dfrac{1}{rrr}(-5) = \dfrac{1}{0.05}(-5) = 20(-5)$

(because there is no change in currency in this case)

$= -\$100.$

∴ decrease of Ms by $100

10 c. Final Position: (All in $)

The Fed		Comm. Banks		TONY	
Assets	Liab. + Net Worth	Assets	Liab. + Net Worth	Assets	Liab. + Net Worth
Securities 915	Reserves 15	Reserves 15	DD_p 300	DD_{Tony} 10	Debts 0
	Currency 900	Loans 285	Net worth 20	Securities 55	Net Worth 65
		Artwork 20			

5 d. If the reserves are increased back by selling some of the artworks, then loans do not need to be called in. Thus, resulting amount of DD_p would be greater than $300, which is what we have in c. This implies that the monetary policy was not that effective, since Ms has not decreased to the extent the Fed expected.

Q3.

4 a. $M^S = \text{Total Res.} \cdot K_M = 230 \frac{1}{0.05} = (230)(20) = \$4,600$

2 b. $M^S = M^D \Rightarrow 4600 = 10000 - 18000 \, r$

$$18000 \, r = 5400$$
$$r^* = 0.3$$

2 c. $I^d = 20000 - 20000(0.3) = \$14,000.$

3 d. $Y^* < Y^{FE}$, so I^d needs to increase by $\$5000$ to achieve the increase of $\$20,000$ in Y, since $K_I = 4.$ $\left(\frac{20000}{4} = 5000\right)$

2 e. The Fed should buy up securities.

6 f. I^d need to be $14600 + 5000 = \$19,000.$

Then, $19000 = 20000 - 20000 \, r \Rightarrow r = 0.05$

If $r = 0.05$, $M^S = 10000 - 18000(0.05)$
$$= 10000 - 900$$
$$= \$9100.$$

$\therefore M^S$ needs to increase by $\$9100 - \$4600 = \$4500.$

$$\Delta M^S = \Delta DD_p = \frac{1}{0.05} \cdot \Delta Res.$$
$$\Rightarrow 4500 = 20 \cdot \Delta Res.$$
$$\Delta Res. = \$225$$

$\therefore$ The Fed should buy up $\$225$ of securities.

1 g. ① Money demand is affected by Y $\left(\uparrow Y^* \Rightarrow M^D \uparrow \Rightarrow r \uparrow = I^d \downarrow = Y^* \downarrow\right)$

② The public does not fully deposit the money obtained by selling the securities to the Fed into the Cote d'Big Red bank. (ΔRes is smaller, hence ΔMs

③ The Cote d'Big Red bank is conservative, so keeps extra reserves.