

Economics 100b Midterm Review Answers
Chapter 8
Hannah Betesh

1)

- a. Quantity equation: $MV = PY$, if $PY = 150$ and $M = 50$, then $V = 3$. If $MV = 150$ and $PY = 60P$, then $P = 2.5$
- b. If Y goes up by 7% and M, V are constant, then P should drop by 7% to keep both sides of the equation equal.
- c. To keep the price level stable (at 2.5), the Fed should increase M by 7% as well.
- d. If the Fed wants an inflation of 5% and the economy is growing at 12% a year, the Fed should increase M by 12%.

2) According to the Quantity Theory, $\pi = \% \Delta M - g_Y$, so if there is no change to g_Y , a sudden increase in the growth rate of money supply will increase inflation. We know from the Fisher equation that $i = r + \pi$, so if inflation increases, the nominal interest rate will also increase.

3) According to the government budget constraint, $G\$ = T\$ + \Delta B\$ + \Delta M\$$. Since Fredonia's budget deficit results from $G\$$ exceeding $T\$$, there are four available options:

- Fredonia can increase $T\$$. This is a quick way to address the deficit, but the citizens of Fredonia may be unhappy about paying higher taxes.
- Fredonia can decrease $G\$$. This may solve the deficit problem, but again, the citizens of Fredonia will be very unhappy about the resulting cuts to government programs.
- Fredonia can increase its stock of debt, $B\$$, by borrowing money from other countries to finance its government spending. This will not anger citizens as much as reducing $G\$$ or increasing $T\$$, but if Fredonia continues its current deficit level and keeps borrowing, lenders will be concerned about Fredonia paying back its debts and will charge higher interest rates to absorb the risk of delinquency. If the problem persists for long enough, other countries may stop lending to Fredonia altogether.
- Fredonia can print up more of its currency, which will finance its spending through the *inflation tax*, or *seignorage*. This is a convenient "last resort," but the consequences are troubling. The Quantity Theory shows us that growth in the money supply, M , will lead to growth in the price level. Fredonian citizens will pay for this inflation tax through the decline in the value of their savings and higher prices for all goods in the Fredonian economy. This situation will likely lead to *hyperinflation*, and it will be very difficult for Fredonia to pull itself out of hyperinflation, pay back its debts and convince price-setters within its own economy to stop raising prices.