1. Uncertain. From the equilibrium condition, Domestic production = World
demand for domestically produced goods, we get the following expression: \( NX = (S - I) + (T - G) \). Note that this equilibrium relationship does not imply any
causality from government balance to external balance or vise versa. It is
simply a condition that must be met in goods market equilibrium. If the Federal
government had run a government surplus \((T - G)\) greater than 0, the US trade
balance could only have been in deficit \((NX < 0)\) if \( S - I \) is very very
negative (by an amount which exceeds in absolute value the government sur-
plus). This may be the case if autonomous consumption increases by a lot; this
elicits a fall in private saving (recall \( S = Y - T - C \)). In the 1980s we did
witness a large consumption increase, due in part to lower tax rates and higher
autonomous consumption.

2. For a given level of the foreign interest rate and long run nominal ex-
change rate, the relationship between the domestic interest rate and nominal
contemporaneous exchange rate is negative. This is because an increase in the
domestic interest rate makes domestic bonds more attractive, relative to for-

3. An increase in taxes leads to a decline in consumption. This is graphi-

4. A fall in the money supply leads to a leftward or upward shift of the LM
curve. The new equilibrium is at a higher interest rate and lower output. The
exchange rate appreciates. The impact on net exports is ambiguous, since a de-
cline in domestic output decreases import demand, and therefore increases net
exports, yet the appreciation of the exchange rate makes domestic goods more
expensive, relative to foreign goods, and thus decreases net exports. Consumption
and investment demand both unambiguously fall, due to the decrease in \( Y \)
and increase in \( i \). We assume the short run in Chapter 13 so the real exchange
rate is equivalent to the nominal exchange rate.
5. A decrease in the foreign interest rate leads to an appreciation of the nominal exchange rate, given a fixed domestic interest rate. In the $(i, E)$ diagram, this translates to a leftward or downward shift of the interest parity curve. The appreciation of $E$ due to a decrease in $i^*$ (given $i$) leads to a decrease in net exports; in the IS-LM framework, this translates graphically into a decrease in output at all levels of the interest rate (a leftward or downward shift of the IS curve). At the new equilibrium, both the domestic interest rate and domestic income are lower. At this new equilibrium, the decline in $i$ leads to a depreciation in the exchange rate. The net change in the exchange rate (the initial appreciation due to an increase in $i^*$ and the following depreciation due to a decrease in $i$) is ambiguous. At the new equilibrium, consumption falls and the change in investment is ambiguous due to lower $Y$ and lower $i$.

6. Following Blanchard, Chapter 13, we assume that the long-run expected exchange rate is fixed at $E_{\bar{\bar{E}}}$. Assume initial equilibrium is where $Y = Y_n$. An increase in $T$ leads to a decline in consumption. This decline is graphically depicted by a leftward or downward shift of the AD curve in $(P, Y)$ space. In the short run, $P$ is lower and so is $Y$. In IS/LM space the increase in $T$ leads to a leftward or downward shift of the IS curve. A decline in $P$ leads to a small rightward or downward shift of the LM curve. Thus in the short run, $i$ is lower, as is output. Thus in the short run, $E$ depreciates, and the real exchange rate ($E_P^*/P$) also depreciates unambiguously. OMIT LONG RUN

7. In a fixed exchange rate regime, monetary policy must accommodate any change to fiscal policy. Thus in a fixed exchange rate regime, because of monetary policy accommodation, the impact of fiscal policy on output is even greater. A decline in taxes elicits an automatic contraction of the money supply in order to maintain interest rate parity. Thus at the new equilibrium $i = i^*$ (as before) and output is lower than at the initial equilibrium. The decline in output in this case is greater than in question 3 because monetary accommodation (a fall in the money supply) prevents reverse crowding out of investment.

8. At the initial equilibrium, $i = i^*$. A devaluation means that the government unexpectedly announces that it will alter the fixed level of exchange between its domestic currency and foreign currency ($E_{\bar{\bar{E}}}$ is increased unexpectedly). In $(i, E)$ space this translates graphically as a rightward or upward shift of the interest parity curve. The devaluation leads to an increase in net exports (assuming no J-curve effect, and simple Marshall-Lerner conditions hold). This graphically translates to a rightward shift of the IS curve. In order to maintain this new level of exchange rate, the government must accommodate the increase in demand for domestic production (due to the devaluation), which exerts a downward impact on the exchange rate. The government therefore must increase in the money supply continually until the IS curve is no longer affected by increases in net exports due to the devaluation. At the final equilibrium $i = i^*$ and output is at a higher level. Consumption and investment both
unambiguously increase. The total impact on net exports is ambiguous. The initial devaluation leads to an initial increase in net exports, while the eventual increase in equilibrium income leads to a decrease in net exports.