Today’s lecture

• In the news: Greenspan testimony
• Goods market equilibrium in the open economy.
• Budget deficits and trade deficits
Goods market in open economy:

- Demand for domestically produced goods:
  \[ Z = C(Y-T) + I(Y,r) + G - e \ IM + X \]
  - IM denotes the quantity of imports.
  - e is the real exchange rate.
  - e IM is the value of imports in terms of domestic goods.
  - Assume that domestic demand for domestic goods (DD) is independent of exchange rate:
    \[ DD = C(Y-T) + I(Y,r) + G \]
Import and export demand

- Domestic demand for foreign goods (imports) increases with domestic income and decreases with the real exchange rate $e$ (price of foreign goods relative to domestic goods):
  
  \[ IM = IM(Y,e) \]

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- Foreign demand for domestic goods (exports) increases with foreign income and increases with the real exchange rate:
  
  \[ X = X(Y^*,e) \]

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Goods market equilibrium

- Goods market is in equilibrium when demand for domestic goods equals domestic output:

\[ Y = C(Y-T) + I(Y,r) + G - e IM(Y,e) + X(Y^*,e) \]

- At equilibrium \( Y \), we can have either a trade surplus or deficit.
- Given exchange rates, as output increases, the trade balance deteriorates
  - Import demand is an increasing function of domestic output.
Increase in domestic demand:

• Suppose govt. spending increases.
  – Output increases.
  – Trade balance deteriorates.
  – Increase in domestic output is smaller than in closed economy case.

• Intuition:
  – Income-expenditure multiplier is smaller in the open-economy
  – Part of induced demand satisfied through demand for foreign goods.
  – The rise in demand for foreign goods does not generate further increases in domestic income to produce further rounds of spending.
Increase in foreign demand

- An increase in foreign income increases demand for U.S. exports.
- U.S. output increases.
- Trade balance improves:
  - Import demand increases but not by enough to offset rise in export demand.
Summary:

- Domestic spending raises output but reduces trade balance.
- Foreign spending raises output and increases trade balance.
- Multiplier effect of autonomous spending is smaller in open economy than closed economy.
Games that countries play:

• Govts dislike trade deficits and prefer to stimulate demand through exports rather than increases in domestic spending if possible.

• Coordination issues:
  – In a world-wide recession, a country may wait for other countries to adopt expansionary policies that stimulate demand through exports.
  – If everyone waits, the recession lasts longer.

• Implication: there may be benefits to coordinating macroeconomic policy across countries.
Depreciations

- $e = E \frac{P^*}{P}$
  - As dollar depreciates $E$ rises, causing real depreciation.

- What happens to trade balance?
  - $NX = X(Y,e) - eIM(Y,e)$
  - Direct effect $X$ increases and $IM$ falls.
  - Value of imports $eIM$ is ambiguous however.

- Normal conditions: real depreciation causes net exports to increase and output to expand.
Savings, Investment and the trade balance

- Savings and investment:
  \[ Y = C + I + G - eIM + X \]
  \[ S = Y - C - T \]

- Combine to get:
  \[ NX = S + (T - G) - I \]

- Trade deficits occur if savings (private or public) is low relative to investment.

- Depreciation can reduce the trade deficit: a depreciation leads to higher output relative to investment. Since some of the increase in output is saved, savings rises relative to investment and the trade deficit falls.
Budget deficits and trade deficits.

- Govt deficit spending is a reduction in total savings relative to investment. This leads to a trade deficit.
- If $I = S$,
  
  $$NX = (T-G)$$
  
  (Trade deficit equals budget deficit)
- Question: Is recent fiscal policy major cause of current trade deficits?