GDP and the AS/AD Relation[1]
In-Class Problem[2]

Assume the following values for a modern economy:

- Consumer spending = \$6 trillion
- Planned investment spending = \$4.2 trillion
- Δ National (Federal) debt = \$500 billion
- Exports = \$2.3 trillion
- Federal Revenues (taxes) = \$3.5 trillion
- Unemployment = 4.2%
- Net Capital Inflows = \$700 billion
- Δ Inventory = -200 billion
- Potential GDP = \$13 trillion

1. **What is this nation's level of GDP or Y*?**

GDP = C+I+G+X-IM

We have C = \$6 trillion and X = \$2.3 trillion, but we don't expressly have I, G or IM so we'll need to calculate those from what we know

I = I_P + I_U = Planned investment spending + Δ Inventory = \$4.2 trillion - \$.2 trillion = \$4 trillion
G = Taxes + Borrowing = Federal Revenues + Δ National debt = \$3.5 trillion + \$.5 trillion = \$4 trillion
NCI = IM - X; IM = NCI + X = \$.7 trillion + \$2.3 trillion = \$3 trillion
So GDP = C + I + G + X - IM
= \$6 + \$4 +\$4 + \$2.3 - \$3 (all in trillions)
= \$13.3 trillion
= Y*

2. **What is LRAS (long run aggregate supply) for this nation?**

Y_P = LRAS = \$13 trillion

3. **What is the value of this nation's PPF ?**

Y_P = PPF = \$13 trillion

[1] This In-Class Problem is intended to present an abbreviated discussion of the included economic concepts and is not intended to be a full or complete representation of them or the underlying economic foundations from which they are built.

[2] This problem was developed by Rick Haskell (rick.haskell@utah.edu), Ph.D. Student, Department of Economics, College of Social and Behavioral Sciences, The University of Utah, Salt Lake City, Utah (2014).

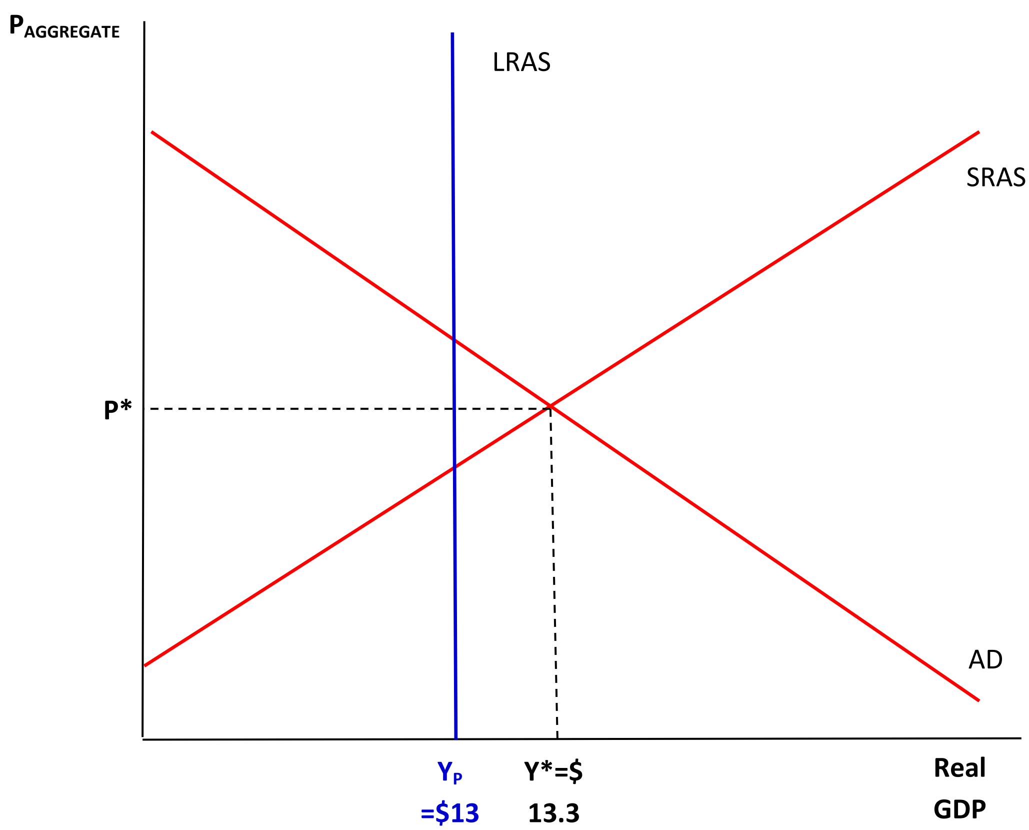
4. **Is the economy presenting with a "recession" or "inflation" gap?**

   $Y_P < Y^*$ (\$13 < \$13.3) – this nation presents with an inflation gap

5. **Without expressly knowing the nation's potential and actual GDP, do you have any indication as to it being in an economic expansion or contraction?**

   We have a decrease in inventories, which might indicate that sales were stronger than expected – this might indicate economic expansion. We also see that unemployment is relatively low at 4.2%

6. **Provide a graph with as much detail as possible showing this nation's AS/AD relation**

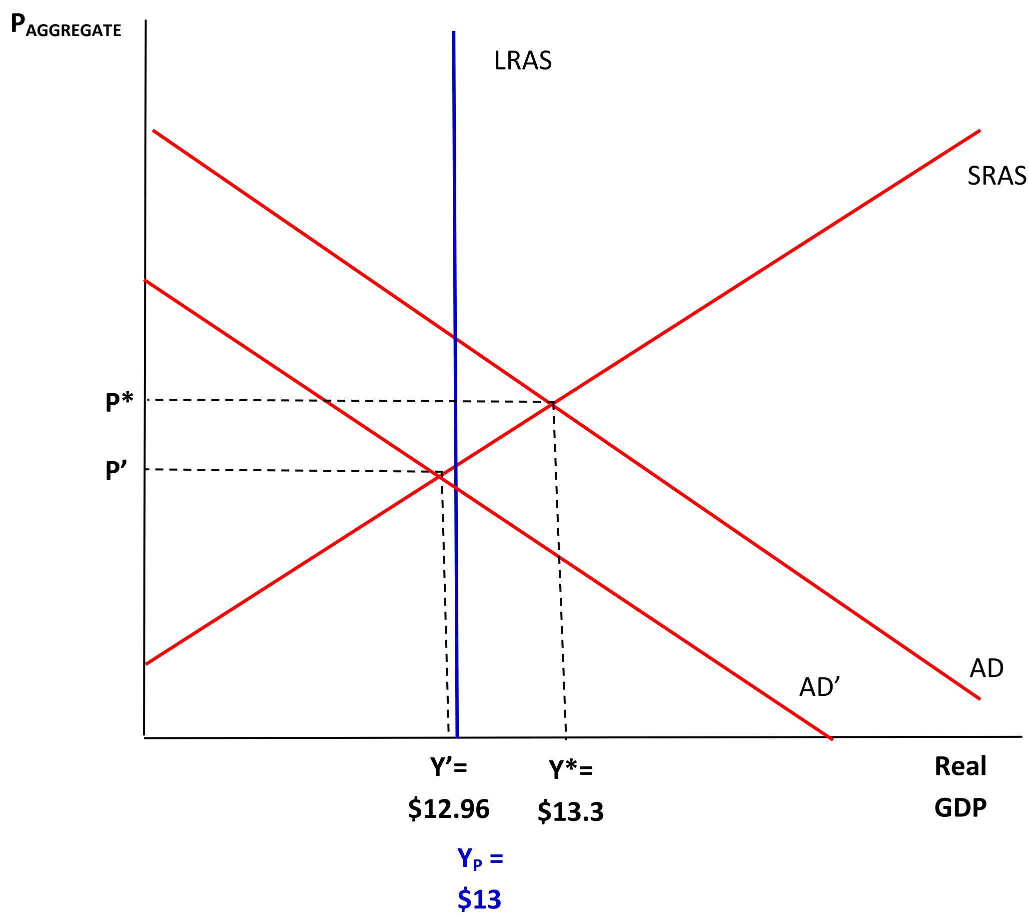


$Y^* > Y_P$ = inflation gap

7. **If the MPS in this economy is 15%, what would be the effect of fiscal policy dampening in the form of a decrease in government spending in the amount of $50 billion?**

$$\Delta GDP = \Delta AAS\left(\frac{1}{1-MPC}\right) = -\$50\ billion\ \left(\frac{1}{1-.85}\right) = -\$50\ billion\ \left(\frac{1}{.15}\right) = -\$333.33\ billion$$

So GDP would fall to $12.966 trillion and $P_{AGGREGATE}$ would fall to P'. This has taken this economy slightly beyond the preferred triple tangency. Remember that this economy was suffering from an inflation gap and as such prices must have risen to P*, so prices decreasing to P' may not be all that bad – also, we're talking about real prices and not nominal price levels here.



8. **If you were the nation's chief economic advisor, what would you do next?**

Absolutely nothing!! The proximity of Y' and YP are so close that it's not likely any fiscal policy intervention would provide a certain and successful condition.