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GDP Calculation: $Y = C+I+G+X-IM$[1]
In-Class Problem[2]

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Suppose the following are figures relating to a particular polity in a given year:

Domestic Manufacturing	250 million
Household Consumption	100 million
Federal Taxes	50 million
Imports	150 million
Corporate Consumption	100 million
Investment	50 million
Federal Borrowing	50 million
Changes in inventory	0

Calculate GDP
$GDP = C + I + G + X - IM = 300$ million

Consumption	200 million	Household Consumption + Corporate Consumption
Investment	50 million	
Government	100 million	Federal Taxes +Federal Borrowing
Exports	100 million	Exports = Domestic Manufacturing + Imports – Consumption – Government
Imports	150 million	

What is the effect of the trade deficit on investment?
The trade deficit directly impacts investment – it adds to it by representing other nations' investments in the home country. That also means that a trade surplus represents the home country's investment in other nations with which it trades. We refer to these investments as FDI (Foreign Direct Investment), though they are not all that goes into FDI.

Here are some other very important relationships that you might want to recall:

From **$GDP = C + I + G + X - IM$** we can rearrange the equation and find that **$I = GDP - C - G + IM - X$**

We also know that **$I = S_{NATL} + NCI$** and **$NCI = IM - X$**

So that means that **$S_{NATL} = GDP - C - G$**. We can read this as a nation's savings is equal to its income (GDP) minus its consumption (C) minus its government spending (G)

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[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).

Since we know that $S_{NATL} = S_{FED} + S_{PRI}$ then we must be able to say that $S_{FED} + S_{PRI} = GDP - C - G$, which makes sense if you think about it.

We then also know that $I = S_{FED} + S_{PRI} + NCI$, so, this means that a nation's investment (I) is not just a function of its savings, but also a function of its net exports (X-IM), which is simply NCI (Net Capital Inflows = IM - X) in reverse

We know that $G = T+B$ (tax receipts plus borrowing), so we also know that $B = G-T$.   But we also know that $S_{FED} = T-G$, which is just the opposite of **B**: this simply means that $S_{FED} = -B$; which makes sense. If B>0 then the nation is in a budget deficit or experiencing dis-savings so S_{FED} is < 0 (-); if **B** < 0, then the nation is running a budget surplus or experiencing savings and S_{FED} >0 (+); if B = 0 then the nation is running a balanced budget and is neither saving nor dis-saving.