

### Paradox of Thrift

*An attempt by the economy as a whole to increase aggregate savings not only will not succeed, but may lower aggregate output, income and employment.*

This is because increased savings at a given level of aggregate income will mean decreased consumption. Thus a smaller marginal propensity to consume will reduce the stimulative effects of investment and other spending.

For example, suppose an economy is characterized by a consumption function:

$$C = \$100 + .8Y_d$$

If autonomous investment is equal to \$300 billion then the equilibrium level of output and income is

$$Y_e = 5 (100 + 300) = \$2000 \text{ billion}$$

because the multiplier =  $1/(1 - b) = 1/(1 - .8) = 5$ . Aggregate consumption is:

$$C = \$100 + .8 (\$2000) = \$1700 \text{ billion}$$

and aggregate savings is:

$$S = -\$100 + (1 - .8) (\$2000) = \$300 \text{ billion}$$

So aggregate savings equals aggregate investment (\$300 billion).

Suppose some political and or business leaders come out and say we have to save more so the economy can grow. If people comply in such a way that the mps rises from .2 to .25, what will be the effect? The new consumption function will be:

$$C = \$100 + .75Y_d$$

With \$300 billion in investment, the new equilibrium will be:

$$Y_e = 4 (100 + 300) = \$1600 \text{ billion}$$

because the new multiplier =  $1/(1 - .75) = 4$ . Aggregate consumption is now:

$$C = \$100 + .75 (\$1600) = \$1300 \text{ billion}$$

and savings:

$$S = -\$100 + (1 - .75) (\$1600) = \$300 \text{ billion}$$

Thus, savings is still equal to investment at the same level of \$300, but output and employment are much lower.

So the attempt by the economy as a whole to save more not only did *not* result in more savings, but actually lowered aggregate output and income by \$400 billion.

This is the paradox of thrift, and is another example of the paradoxical nature of macroeconomics. It is rooted in the two-sided nature of spending and saving. When we just look at one individual firm or household in isolation, we don't see the impact that our actions have on other participants in the economy due to the interdependent nature of economic activity. So while for any one individual, it is wonderful to save more, for the economy as a whole, it could be a disaster.

If, however, the increased saving is the result of higher incomes, then that is a different story. If income goes up, consumption and saving both go up. But at a given level of income, increased aggregate savings can throw the economy into a recession. Therefore, a policy to increase growth by increasing savings has it backwards: savings will increase as a *result* of growth.