

The Keynesian Cross vs the “Classical” Cross

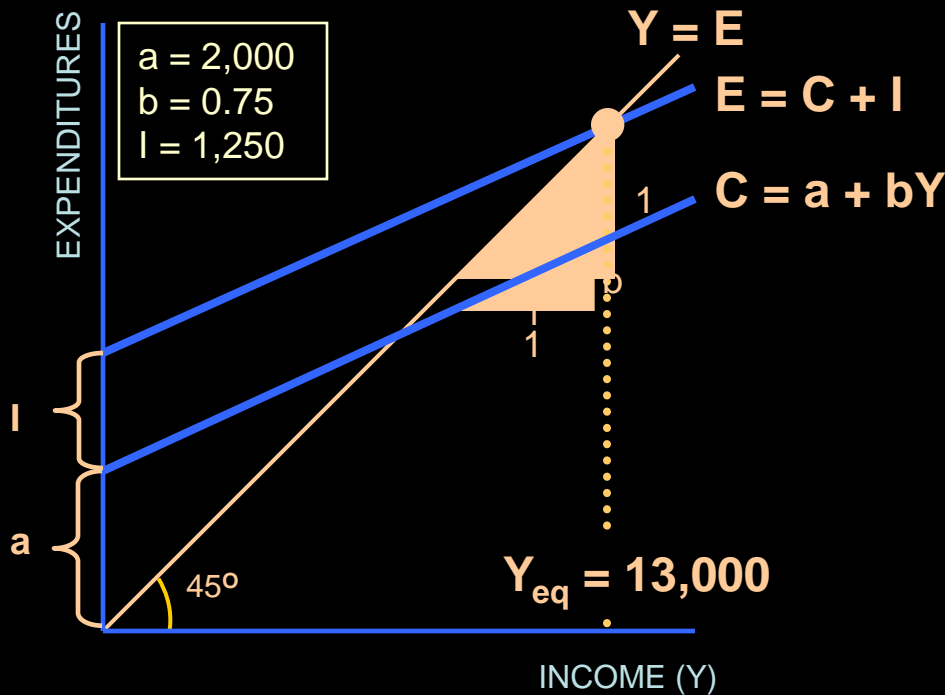


John Maynard Keynes



Alfred Marshall

A Telling Exercise
in Comparative Frameworks



If dollar magnitudes are in billions of dollars, then equilibrium income is $Y_{eq} = \$13,000$ billion.

Graphically, $Y = E$ is the 45-degree line and $E = C + I$ is the intersection of the 45-degree line with the $E = C + I$ line. The vertical distance between the 45-degree line and the $E = C + I$ line is the amount of saving. The horizontal distance between the 45-degree line and the $E = C + I$ line is the amount of investment. The vertical distance between the 45-degree line and the $C = a + bY$ line is the amount of consumption. The horizontal distance between the 45-degree line and the $C = a + bY$ line is the amount of income.

So, $Y = C + I$, where $C = a + bY$.
Combining income, Y , and I spend more but they save more too.
Suppose that $a = 2,000$, $b = 0.75$; and $I = 1,250$.

We can now write:

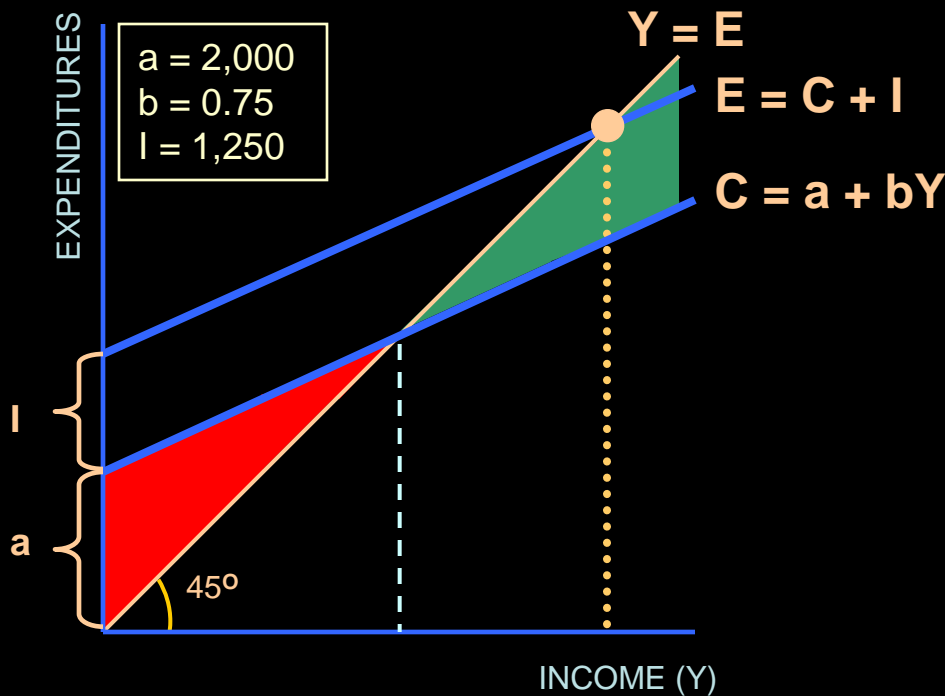
$$C = 2,000 + 0.75Y$$

$$\text{And } Y = 2,000 + 0.75Y + I,250$$

$$\text{Or: } Y - 0.75Y = 2,000 + I,250$$

$$\text{Simplifying: } 0.25Y = 3,250$$

$$\text{Finally: } Y = 13,000$$



For low levels of expenditure, graph tracks consumption spending (C) and total spending ($C + I$) as these (magnitudes) later to come.

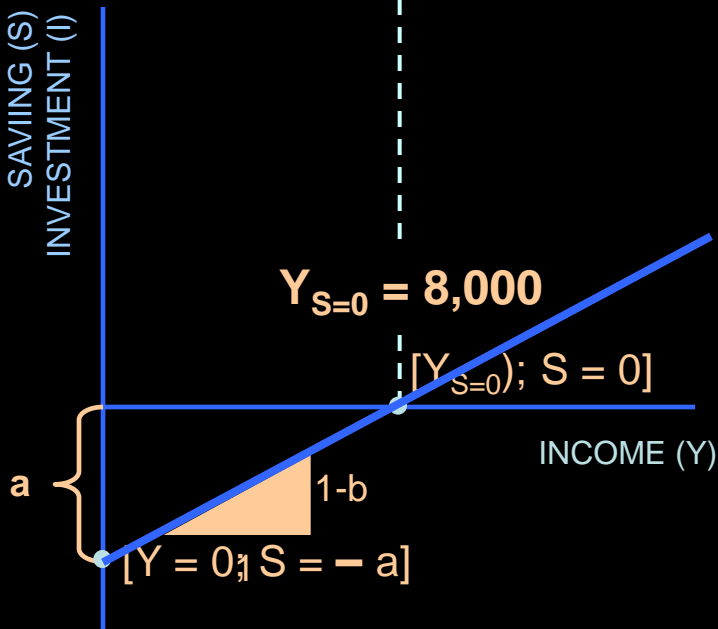
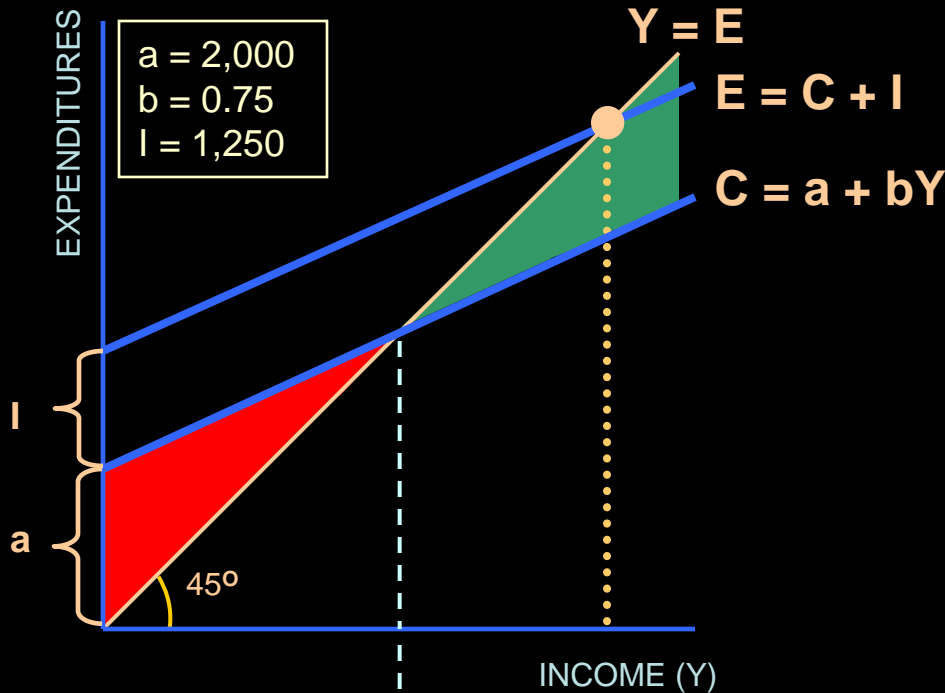
Indirectly, this graph keeps track of For higher levels of income, saving, too, consumption spending is less than

saving (S), which this means (so spending is) positive income

can be written: $S = Y - C$. Where red and green meet, saving

is mathematically S is the opposite.

Distance between C and Y nor dissaving. Rather, $S = 0$ or, equivalently, $C = Y$.



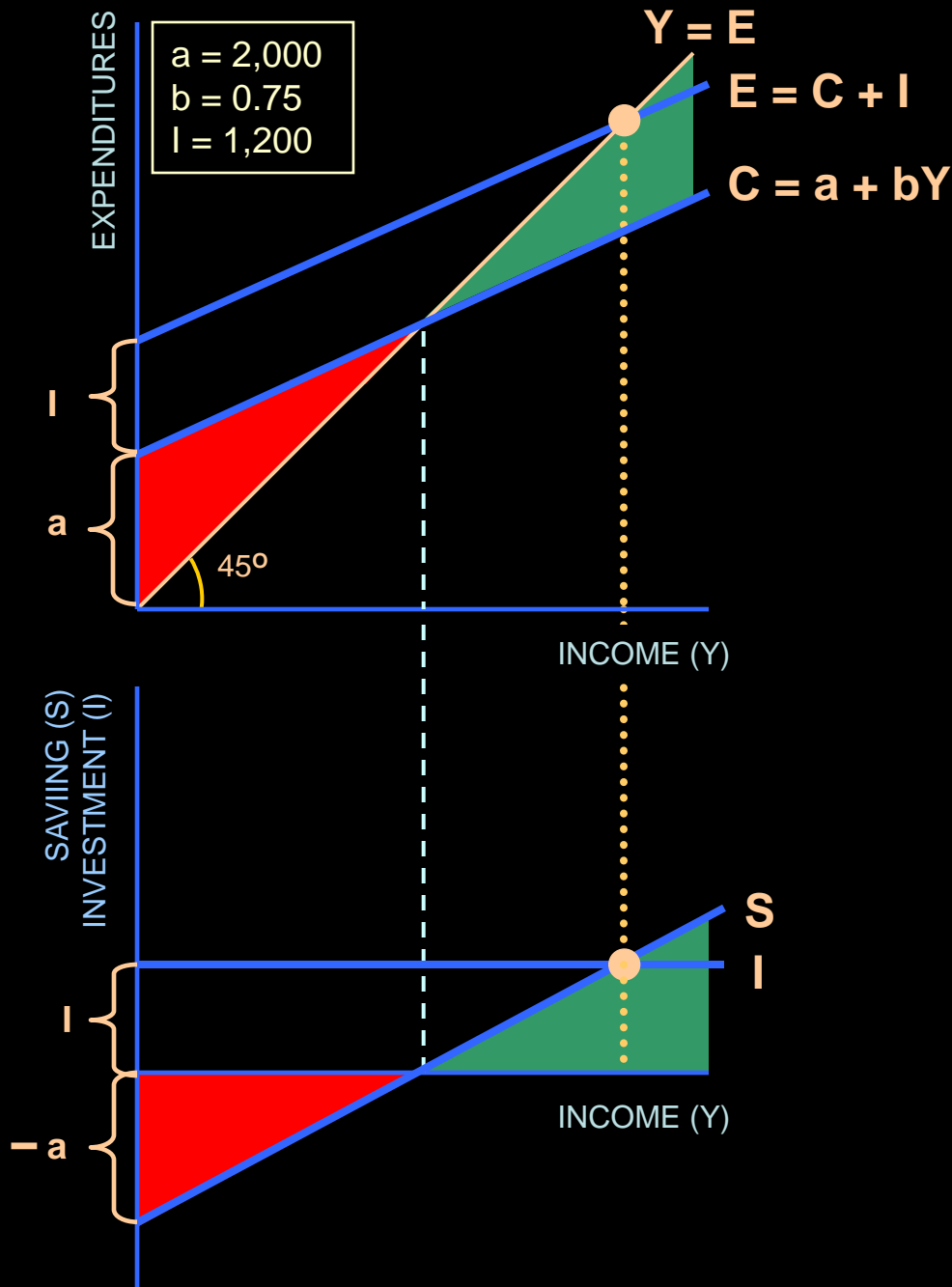
What does it mean that the saving function is downward-sloping? It means that as income increases, the amount of saving (S) also increases. The "a" in the upper panel, which is consumption spending with no

We can now show that the equality between saving and investment is an alternative condition for a

the red-green boundary in the upper panel marks the point in the lower panel where saving is zero.

Rearranging $S = -a + (1-b)Y$ We now connect the (negative) level of saving when $Y=0$ and the level of income when $S=0$ to depict the saving function.

$$S = -a + (1-b)Y = 20/0.25 = 8,000$$



The income ranges of dissaving (red) and saving (green) are more obvious with S graphed by itself.

Now, we show that investment (I) does *not* depend on income.

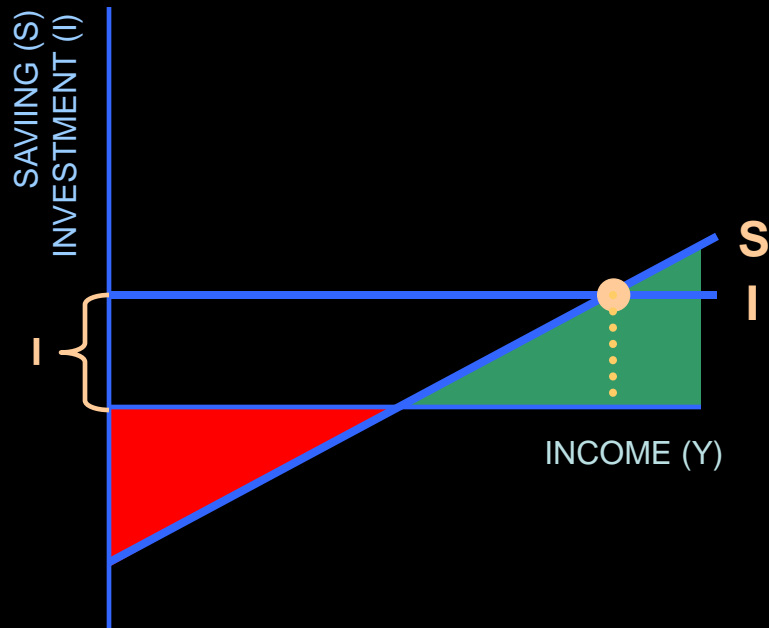
We note that the equality of saving and investment occurs at the same level of income at which income equals expenditures.

Notice also that all the information contained or implied in the $Y=E$ graph is also contained or implied in the $S=I$ graph.

THE KEYNESIAN CROSS

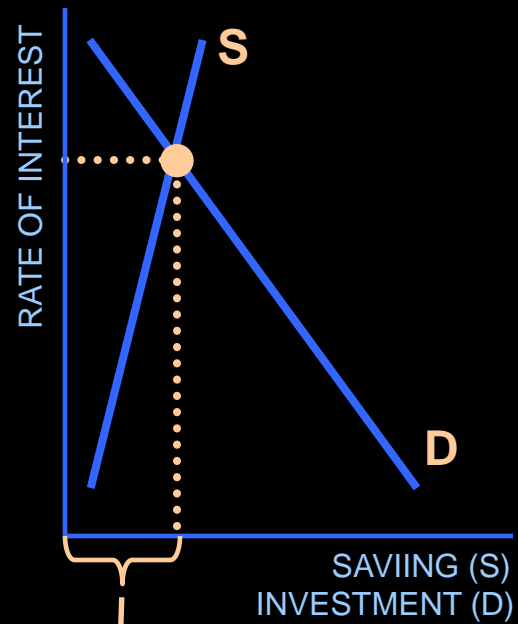
The Keynesian Cross, featuring the intersection of Y and E or of S and I , is fundamental to Keynesian theory.

Its relevance presupposes that labor markets and output markets are dysfunctional and that the interest rate is out of play.



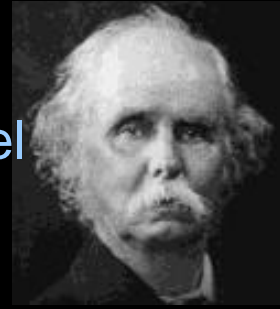
THE "CLASSICAL" CROSS

The Keynesian Cross stands in contrast to the "Classical" Cross, whose relevance presupposes that markets work.



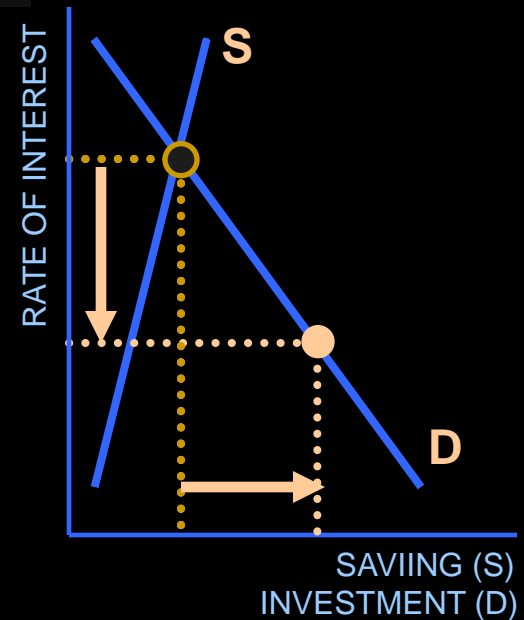
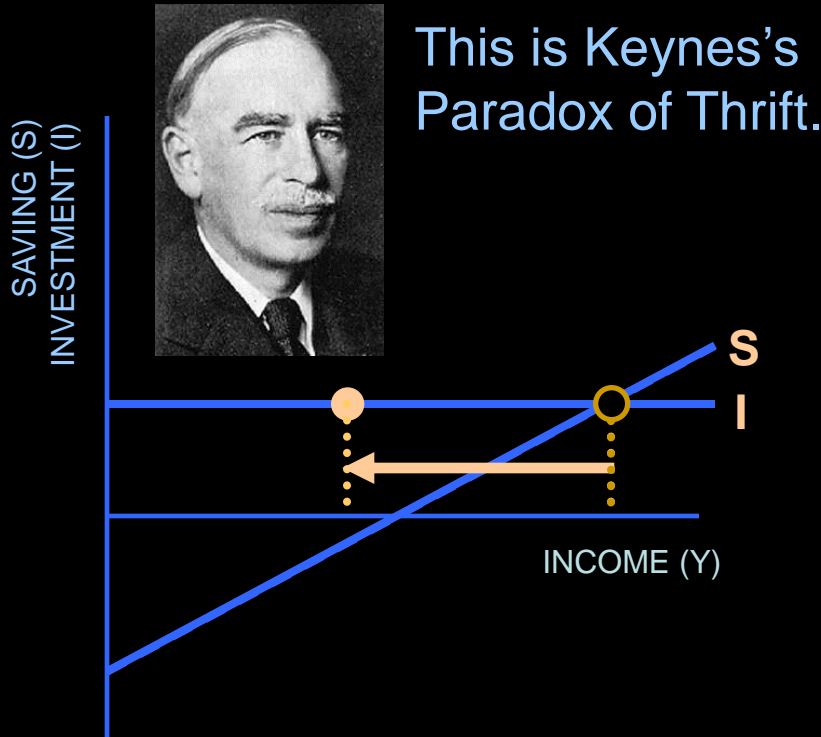
Keynes argued that the saving curve doesn't shift. The parameters "a" and "b" don't change.

And that's good: if saving were to shift upward, income spirals downward until the equilibrium level of saving, once again, equals the unchanged level of investment.



Marshall argued that the supply and demand for loanable funds are fully functional.

If saving shifts rightward, the interest rate falls, stimulating an increased level of investment.



We can identify significant similarities and differences between Keynesian theory and classical theory by responding to a few revealing questions.

Does the equality of saving and investment automatically maintain full employment?



Keynesian theory is a response to the classical model's problems, including the paradox of thrift. It suggests that in a depression, the interest rate is not the primary mechanism for adjusting aggregate saving and investment. Instead, it is the level of aggregate demand that determines the level of output and employment.

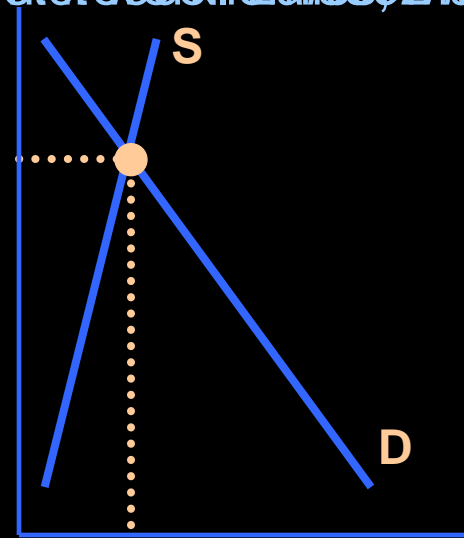
SAVING (S)
INVESTMENT (I)



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INCOME (Y)

RATE OF INTEREST



SAVING (S)
INVESTMENT (D)

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