

Build a model

[Literature](#), [Russian Literature](#)



Relationship between real interest rate and income tax In analyzing the relationship between real interest rate and income tax, several factors are put into consideration. Firstly, income tax is assumed to be exogenous, that is, it's fixed by the relevant government authority. On the other hand, real interest rate is endogenously determined. It is dependent on the rate of income tax (Dai et al. 36). The relationship between the dependent and independent variables can be written as $r = mt + b$. This function shows a linear relationship between real interest rate and income tax. Where r is real interest rate, m is the slope, t represents income tax and b is the y-intercept. The y-intercept is located at point b which is just above the origin. At this point the income tax is zero and the real interest rate is very low but not zero. The slope of the function is given by $m = \Delta r / \Delta t$. From the diagram below it can be noted that the rate of real interest increases with an increase in income tax and reduces with a decrease in income tax (Dai et al. 38).

The choice of y-intercept is at point b because at no time in the economy will the real interest rates are zero. The metrics used on the y axis are sensitive to the bond market while the x axis values consider income taxed on households. The slope represents the change of real interest rate with income tax (Dai et al. 37).

Government expenditure is an alternative independent variable in this model. Government expenditure is inversely related to real interest rate. An increase in government expenditure leads to an increase in money supply which would lead to a reduction in interest rates. A fall in government spending leads to reduction in money supply and in turn interest rate reduces (Dai et al. 42).

t

0%

3%

6%

9%

12%

15%

m

0.67

0.67

0.67

0.67

0.67

0.67

tm

0

2.01

4.02

6.03

8.04

10.05

b

2%

2%

2%

2%

2%

2%

r

2%

4. 01%

6. 02%

8. 03%

10. 04%

12. 05%

Work Cited

Dai, Qiang, and Thomas Philippon. Fiscal policy and the term structure of interest rates. Cambridge, Mass.: National Bureau of Economic Research, 2005. Print.