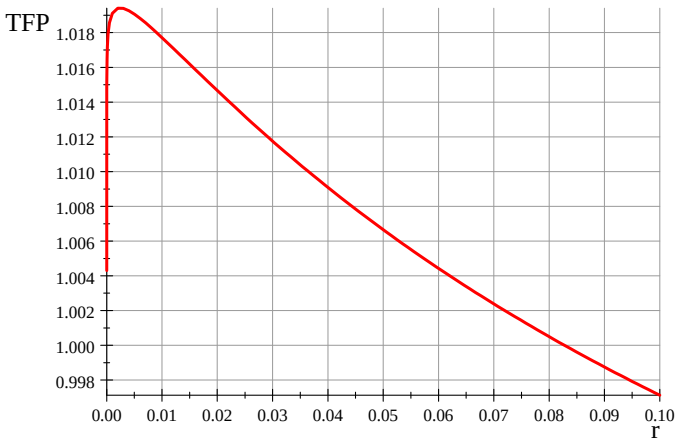

Figure 5. Total factor producitivity as a function of the market interest rate ($\alpha = 0.033$)

Such an exercise is of interest given Valerie Ramey's (1989) study of modeling inventories as a factor of production. Indeed, we can give a Cobb-Douglas representation as follows. Note from (12) that total output can be written as

$$\begin{aligned} Y(K,L) &= n^{\alpha} L \\ &= \left(\frac{2K}{wL} - 1\right)^{\alpha} L \\ &= \left(\frac{2}{w} - \frac{L}{K}\right)^{\alpha} K^{\alpha} L^{1-\alpha} \end{aligned} \tag{15}$$

Imposing a Cobb-Douglas functional form for working capital will result in a misspecified production function, where total factor productivity depends on endogenous variables.

Figure 5 plots the TFP term in the production function as a function of the borrowing rate r when $\alpha = 0.033$. The TFP term is not well-defined when $r = 0$, since both expressions inside the brackets in (15) shoot off to infinity. However, for reasonable ranges for r, the TFP term is decreasing in the borrowing rate.

To an outside observer who imposes a Cobb-Douglas production function