



## [On the Mechanics of New Keynesian Models](#)

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How does monetary policy affect inflation and output in the economy? A widely accepted view is that the monetary transmission mechanism works through a real interest rate channel. According to this view, the central bank—controlling the short-term nominal interest rate—has leverage over the ex-ante real interest rate because nominal prices are sticky. The real interest rate, in turn, affects consumption and investment decisions of households and firms and thus aggregate demand and output. This puts pressure on firms to gradually adjust prices to a new level. Introducing this channel into a modern dynamic stochastic general equilibrium (DSGE) environment was one of the motivations for the development of New-Keynesian models, which are nowadays used to guide monetary policy at central banks around the world.

This paper scrutinizes the transmission mechanism in New-Keynesian models. It argues that the presence of capital—a key ingredient in a transition from the basic New-Keynesian model to its medium-scale DSGE versions—is important for understanding of how the transmission mechanism in these models works.

In particular, we demonstrate that the transmission mechanism in New-Keynesian models does not operate through the real interest rate channel. Instead, as a first pass, inflation is determined by a Fisherian principle, through current and expected future monetary policy shocks, while output is then pinned down through a Keynesian principle, the New-Keynesian Phillips curve. The real interest rate largely only reflects the desire and ability of households to smooth consumption in response to movements in output (income). More or less investment in capital is the only way the economy as a whole can achieve consumption smoothing. We show that a decline, increase, or no change in the ex-ante real interest rate is consistent with declines in output and inflation in response to a monetary policy tightening. High enough capital adjustment costs make the model appear as if it operated through the real interest rate channel—the real interest rate has to adjust so as to prevent



consumption smoothing in equilibrium; a decline in output therefore coincides with an increase in the real interest rate. While observationally equivalent to the real interest rate channel, this is not how monetary policy transmits in New-Keynesian models. The critique applies equally to the basic framework without capital, which is a special case of the model with capital when capital adjustment costs are infinite.

The policy implication of our analysis is that either (i) monetary policy in actual economies does transmit through a real interest rate channel, but then the New-Keynesian model is not suitable for its analysis or (ii) the New-Keynesian model---for its micro-foundations of the price-setting behaviour and internal consistency---is a useful description of actual economies, but then policy makers relying on this framework need to rethink the way monetary policy transmits into inflation and real activity.