Optimal Monetary Policy with an Uncertain Cost Channel

by

PETER TILLMANN

Discussion by

HENRIK JENSEN

University of Copenhagen, CEPR and EPRU

Oslo

June 8, 2007

Objective/Motivation of paper

- Financial frictions have important impact on optimal monetary policymaking

- Recent theoretical and empirical research identifies a "cost channel" (e.g., Ravenna and Walsh, 2006):

  - Firms are constrained when paying workers wages in cash

  - Nominal interest rate variations thus cause variations in firms' marginal costs

  - This causes "direct" variations in price setting and inflation

- Problem: How important is this channel in reality?

Modelling approach

- The central bank faces uncertainty about the magnitude about the cost channel

  - Is it "weak" ($\psi = \psi^l$) or "strong" ($\psi = \psi^h$)?

- Central bank does not know, and has no priors

  - It then conducts monetary policy according to "robust control" principles:

  - Follow a policy procedure that is optimal in the worst possible case

  - I.e., solve a $minmax$ problem

Main results

- Worst case is the "strongest" cost channel as nominal interest rate volatility causes relative more inflation variability

  - (There is also uncertainty about κ — the sensitivity of inflation to real marginal costs; there, highest $\kappa = \kappa^h$ is worst case)

- Under robust control, interest rate policy therefore becomes more attenuated — a la Brainard (1967)

- If policy is implemented by a Taylor (1993) rule, cost channel uncertainty reduces the interest rate response to inflation

  - The response coefficient becomes in line with empirical findings for US 1983-2005

General comments

- Well-motivated analysis!

- Healthy combination of theoretical and empirical analysis

  - Demonstrates in a lucid way the theoretical workings of robust control

  - Contains independent empirical analyses

- Very well written: intuitive and clear exposition

- Makes descriptive and normative points

Further comments: Descriptive lessons

- Narrative evidence on US policymaking and cost channel?

- Seems like conclusions are made based on minmax policy *in* an *ex post* horrible world

  – Was the US experience really experiencing that? (Probably) not according to data

- So, is the model prediction not the same as optimal policy in a model with $\left(\kappa^h, \psi^h\right)$ being a *sure thing*?

Further comments: Normative lessons

- If one wants to make statements about normative policy, discretionary policy equilibrium is inappropriate. Commitment is the relevant benchmark

- Evaluation of appropriate "degree of policy activism" is made *in* a horrible world

- It would be more convincing if one could show the welfare disasters occurring under *non-minmax* policy *when* $\left(\kappa^h, \psi^h\right)$ arrives

  - Welfare analysis is lacking (apart from some loss value comparisons)

Further comments: The model framework

- Is first-order approximation accurate? What steady state is used for approximations?

  - Efficiency in cost-channel dimension requires the Friedman rule
  - This requires steady-state *deflation,* which is inefficient in sticky-price dimension
  - Isn't then the Phillips curve wrong to a first order? (Calvo, 2006; Schmitt-Grohé and Uribe, 2006)

- Is parameter uncertainty an issue in flex-price allocation?

Further comments: On Taylor rule implementation

- Why *always* Taylor (1993) rules?

  - Here, coefficients are not even unique (only a linear combination)

- The proposed Taylor rule is an *equilibrium condition* — what is then central bank aiming at in equilibrium?

  - The policy rule $\pi_t = -f\left(\kappa^h, \psi^h\right) x_t$ gives a minmax policy equilibrium for *any* model (κ, ψ)

  - The derived Taylor rule only gives the same equilibrium in the horrible world

  - So, it only implements the minmax policy when the worst case is happening with probability 1

General concluding comments

- Is the examined kind of uncertainty (parameter uncertainty) welfare important? Probably not; only third-order welfare effects (Sims, 2001)

- There are presumably more (welfare) important uncertainties in real life:

  – What is efficient output and thus the output gap x?

  – How are expectations formed?

  – How are prices set (definitely not in pure forward-looking Calvo fashion)?

Concluding remark:
My general take on the minmax/maxmin approach

- On acting in anticipation of only the worst possible state of the world:

"If you took the maximin principle seriously then you could not ever cross a street (after all, you might be hit by a car); you could never drive over a bridge (after all, it might collapse); you could never get married (after all, it might end in a disaster), etc. If anybody really acted this way he would soon end up in a mental institution."
— John C. Harsanyi [Am. Pol. Sci. Rev. 69 (1975)]

Literal implication of acting like this:

Life is hell,

and

central bankers are and should always be prepared for doomsday

It may be robust implications, but it may not be very smart