From: Timothy Kam <timothy.kam@anu.edu.au>
Subject: **Optimal (time consistent) policy**
Date: 10 November 2010 1:12:27 PM AEDT
To: Jaime Alonso Carrera <jalonso@uvigo.es>
Cc: Timothy Kam <timothy.kam@anu.edu.au>
4 Attachments, 402 KB

Dear Jaime

A. WARNING

What I showed you the last time before you left, regarding the family of forecast based rules that I conjectured to contain the optimal policy as an element of, was WRONG. In particular, I noticed an error in the code (see previous mertr_optimal.m) that still had the policy respond to **E { q(t+1) - q(t) } instead of E { q(t+1) }**. This is not the form of the optimal rule.

B. CORRECT VERSION

Attached is the correct code **mqertr_optimal.m** and **accompanying notes** (scanned PDF) for calculating the stability regions of the family of FB-ERTR rules in the special case (limiting economy) with (delta, nu, phi) --> 0, i.e. no imported factor of production, linear production in labor, and, negligible endogenous discounting, respectively. These are the rules of the form

i(t) = fipi*E(pi(t+1)) + fix*E(x(t+1)) + fis*E(q(t+1)). < FB-ERTR >

Also, embedded in the code is the calculation for the optimal rule itself as point in the policy parameter space. See Lines 58-157 in the code **mqertr_optimal.m**

C. NEW CORRECTED RESULT

Now using the correct form < FB-ERTR > I find:

1. There does not exist any < FB-ERTR > that would induce a stable/unique REE.

2. There does not exist any < FB-ERTR > that would result in nonexistence of REE.

3. Moreover, all instances of this set < FB-ERTR > induce indeterminate REE (i.e. there exists at least one root that is greater than unity and all else less than unity).

SEE ATTACHED pdf figure: The white region is all of Case 3 above, for various cases of \phi_{s}: indeterminacy. The red dot is the optimal policy given the model parametrization.

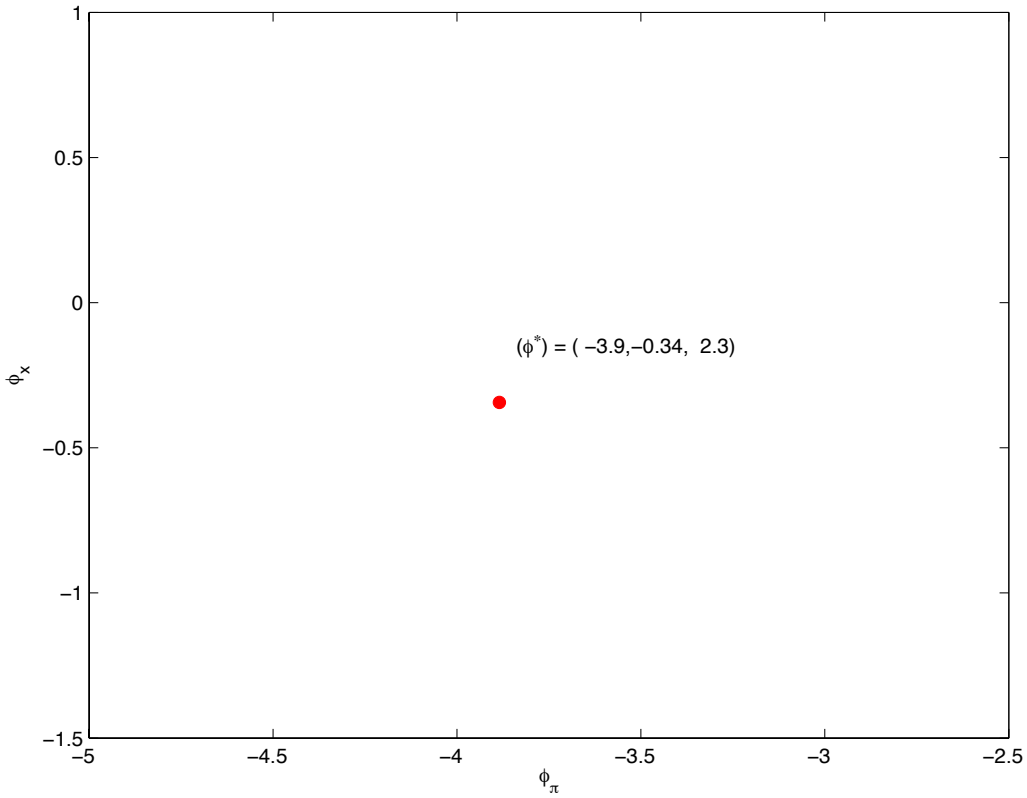
D. YOUR OPINION?

At the moment, I think the exercise and result C above is not interesting enough for inclusion in the first paper. It is a negative result that says that if the policymaker is unable to commit, and instead, plays a time-consistent Markovian strategy that can be representation by the optimal < FB-ERTR > form, then the policymaker will induce indeterminacy of REE in our particular economy. What do you think?

This probably points to the next paper's question ... can we restore stability of REE under learning when the policy maker plays a strategy consistent with the rule representation of < FB-ERTR > BUT where the expectations in the rule are computed via subjective statistical learning ...

Thanks for your time to think about this. I'm cutting the paper shorter at the moment. Let me know if I should include exercise and result C above.

Best,
Tim



mqertr_optimal.m (13.9 KB)

optimal_poli....pdf (365 KB)

allcomb.m (2.1 KB)

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