The Taylor Rule

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Background

- John Taylor played a major role in the success of the rational expectations revolution.
  - Without John (and others) the collaboration we see between academic macro and policymakers might have been less than it is.
  - John was one of a handful of early pioneers to develop RE models with wage and price frictions, which permitted modeling monetary non-neutrality in a tractable way.

- Models for central banks required a succinct characterization of monetary policy.
  - In a sequence of papers starting in early 1990s, John argued for a particular characterization, which came to be called the Taylor Rule.
    - Argued on positive and normative grounds.
  - It is now the baseline essentially everywhere.

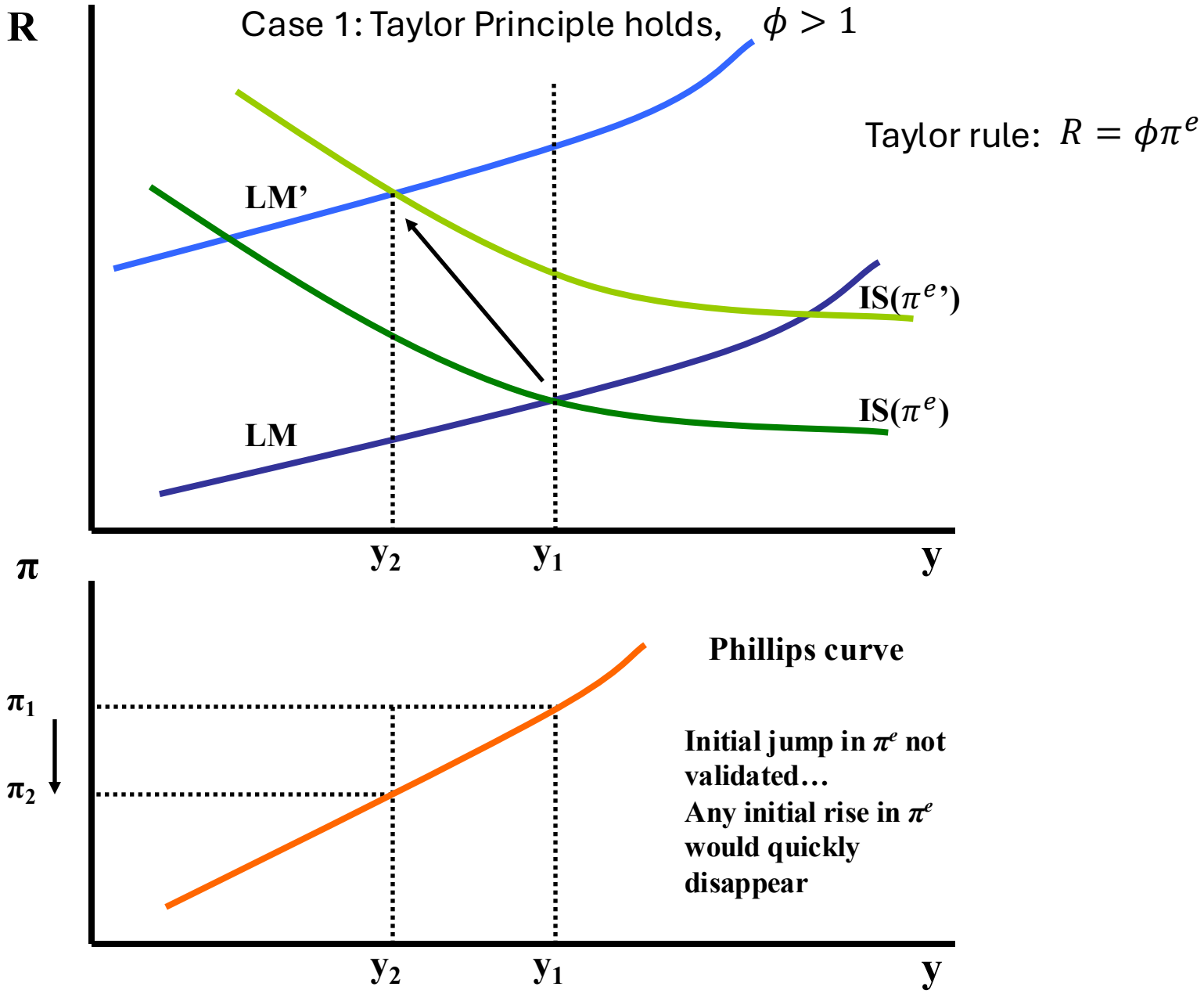
Taylor Rule, Taylor Principle

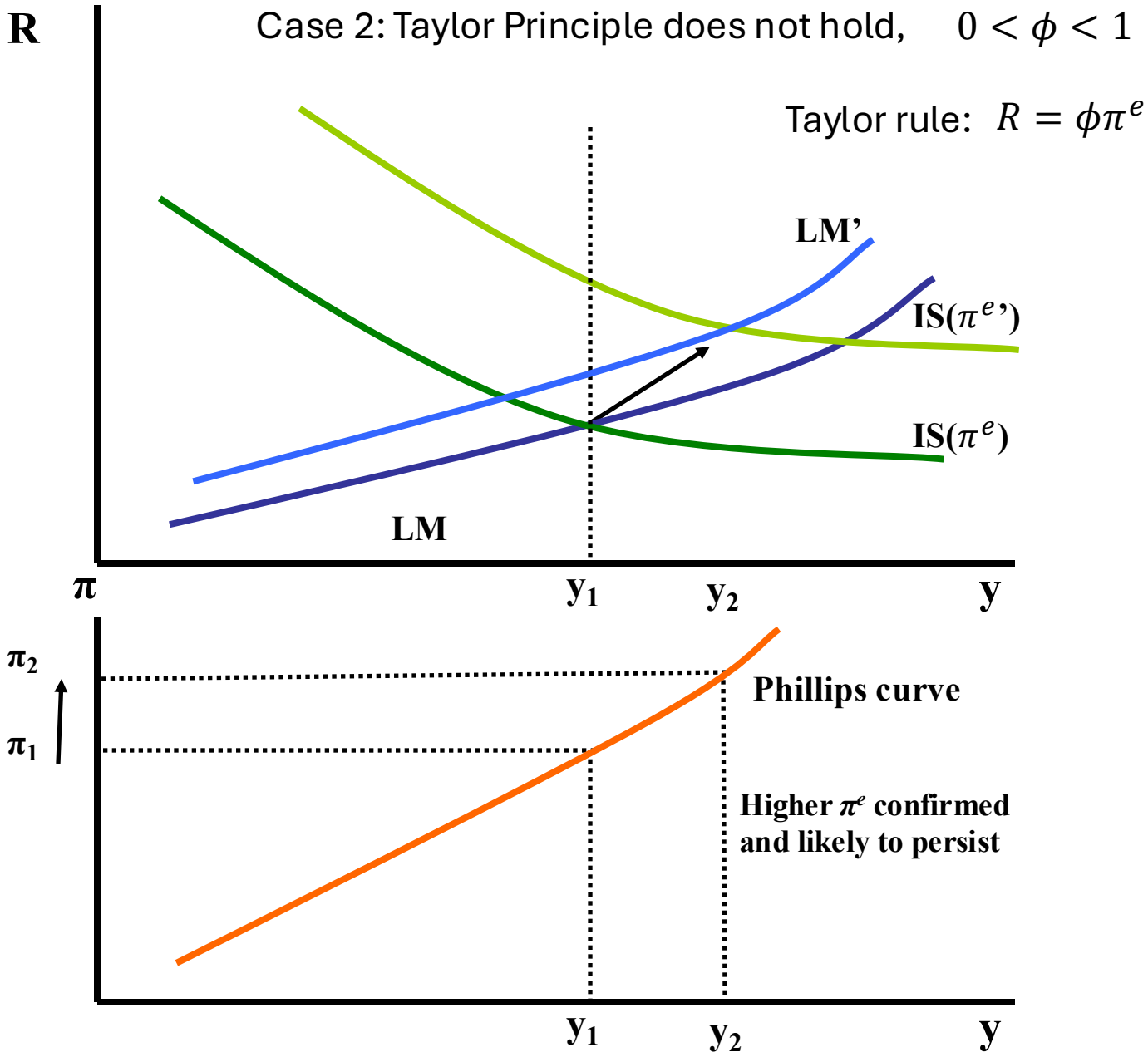
- **Taylor rule**:

$$R_t = \phi_\pi \pi_t + \pi_x x_t$$

- Variants of this rule have been considered:
  - Used convex combination of lagged interest and Taylor term
  - Different measures of π_t (cpi, pce, APR, expectations of inflation, etc.)

- **Taylor Principle**
  - Argued that $\phi_\pi > 1$ is important to anchor expectations of inflation and stabilize economy.
  - For standard New Keynesian models, constant inflation steady state equilibrium is locally unique.
  - If $\phi_{\pi.}$ too small there can be 'indeterminacy' in that any neighborhood of the steady state equilibrium contains other equilibria.
    - This implies sunspots.


R
Case 1: Taylor Principle holds, $\phi > 1$
Taylor rule: $R = \phi\pi^e$
LM'
IS(π^e')
IS(π^e)
LM
y_2
y_1
y
π
Phillips curve
π_1
π_2
Initial jump in π^e not validated…
Any initial rise in π^e would quickly disappear
y_2
y_1
y


R
Case 2: Taylor Principle does not hold, $0 < \phi < 1$
Taylor rule: $R = \phi\pi^e$
LM'
IS(π^e')
IS(π^e)
LM
π
y_1
y_2
y
π_2
π_1
Phillips curve
Higher π^e confirmed
and likely to persist
y_1
y_2
y

Previous example

- If people randomly expect more inflation when $\phi_\pi > 1$ then policy defeats those expectations and presumably such shocks to expectations are less likely to occur as people learn.

- Under rational expectations, people don't experience such shocks to expectations in the first place.

- If people randomly expect more inflation when $0 < \phi_\pi < 1$ those expectations are likely to be reinforced.
  - Could have sunspot rational expectations equilibria.

Questions

- We know that in general, there are other equilibria in NK models with a Taylor rule (BSGU).
  - If so, then $\phi_\pi > 1$ may not rule out welfare-reducing instability after all.

- John Taylor (1996) acknowledges the possibility of other possible equilibria.
  - He suggests that some form of 'escape strategy' could be used to rule it out.
  - Logic works in the way deposit insurance eliminates DD bank runs.
  - Atkeson-Chari-Kehoe (2010) provides a rigorous foundation for Taylor's conjecture.

- Another possibility: Learning could 'select' equilibria.

Learning and the Taylor Rule

- Christiano-Johannsen-Eichenbaum (2025) study a very simple NK model.
  - We identify multiple equilibria associated with the zero lower bound.
  - Show that only one equilibrium is locally stable under learning.
  - Work with the full non-linear version of the model and do computations that suggest convergence to the unique equilibrium is ‘global’.

- CJE show that the Taylor principle greatly accelerates learning:
  - They compare scenarios in which the zero lower bound is ignored and not ignored.
  - Zero lower bound ignored means Taylor principle is in force, and learning is relatively quick.
  - ZLB not ignored means Taylor rule is turned off, and learning is exceedingly slow.

The Road Ahead

- Research seems to generally support the view that the Taylor principle has a useful role to play in stabilization (with suitable ‘escape’ plans in case things go awry).

- The recent post-Covid inflation burst and the debate surrounding it raises new issues.
  - Policy-makers assumed the shock that created inflation was temporary (e.g., one-time transfers or Covid-related bottlenecks) so maybe they could ‘see through’ the shock and not respond.
    - Suggests Taylor rule should be ignored in response to temporary shocks.

  - But, the rise in inflation was longer and bigger than expected and now people worry that inflation expectations could become de-anchored.
    - This fear is reinforced by the recent 2 percentage point rise in household year-ahead expected inflation.
    - People are now writing papers about lack of commitment and how expectations can shift (Christoffel and Farkas, 2025).
    - Is the de-anchoring phenomenon the kind of thing Taylor warned would happen if we deviate from the Taylor rule?

Grateful to be included in this celebration of John Taylor’s Work!

Inflation Expectations Remain Elevated After Surging and Softening Modestly Following April 2025 Tariff Developments