

Policy cooperation, incomplete markets and risk sharing

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Jacques Polak Annual Research Conference, IMF
November 13-14, 2010

The call for policy coordination

Issue:

- increasing calls for policymakers in advanced countries to internalize the effects of their policies on emerging markets
- as globalization continues, spillovers larger and therefore motivation for coordination greater

Two contributions of this paper:

- develop a simple model that highlights one form of externality
- studies the model under different degrees of financial market completeness, can see the effect of financial market integration on magnitude (and direction) of spillover

Message:

- the benefits of policy coordination depend on the nature of the externality and on the extent of financial market integration

Model

A relative of a familiar friend: Cole and Obstfeld (1991)

Static model

Two countries: H, F

Each specialized in a distinct good: Y and Y* produced with labor

Uncertainty over productivity: A, A*

Trade in financial assets.

Complete markets = trade in contingent claims that pay a unit of the good conditional on a pre-specified state k.

Incomplete markets = financial autarky. No trade in financial assets; trade in goods occurs after the state of nature is realized.

Specification of Utility

$$U = \frac{1}{1-\sigma} \sum \pi_j C_j^{1-\sigma} - \sum \pi_j N_j$$

where $C_j = C_{H,j}^\omega C_{F,j}^{1-\omega}$

If preferences were identical in the two countries ($\omega = \omega^*$) then any change in productivity is exactly offset by a change in the terms of trade, so that income is constant.

Allocations under financial autarky = allocations under complete markets

In this paper, consumers have home bias in preferences. When A increases and Y increases, TOT deteriorate.

Substitution effect (H goods cheap) – large with home bias

Income effect (wages up and more Y to sell) – moderated by trade in financial assets

Unilateral (non-cooperative) behavior

Since the home country has a monopoly over good H, it can maximize its welfare by manipulating the terms of trade. Assume that the policy target is to maximize consumption (could alternatively maximize output, or minimize labor, maximize trade, etc.)

When A change, subsidize/tax labor, to moderate the change in supply, smaller changes in TOT, mitigate the substitution and income effects.

When markets are incomplete, government wants to manipulate TOT.

When markets are complete, households are insured against some of the consequences of TOT changes, and so policy is directed at the real exchange rate:
Ratio of home wealth to foreign wealth (inclusive of dividend payments) λ/λ^*

Cooperative behavior

Problem is to maximize joint welfare of H and F, therefore internalize the terms of trade.

Now degree of market completeness doesn't matter – no benefit to manipulating λ/λ^*

Could have posed this an alternative way: Is there still a need for cooperation if markets are complete? If households can fully insure, then the effects of government policy may be neutralized.

What is more likely? That governments successfully coordinate to internalize all externalities, or financial markets develop to insure the risk associated with such externalities?

Government policy and risk

In the set up here, policymakers commit to a policy before state-contingent claims are traded.

“... it is difficult to conceive of the opposite timing – that asset markets open before policymakers commit to a policy... then agents would have to assign probabilities that the policymaker would adopt certain policies. It is not easy to see how that could be modeled.”

But isn't that the world we live in? We are subject to the risk of technology and the risk of government policy (some of which will covary with technology).

Fortunately, this problem has been tackled before.

Lucas (1976), Cooley, LeRoy and Raymon (1984): The assumption of rational expectations requires that the stochastic process for policy be specified as part of the environment of constraints under which households maximize utility.

Lucas: investment tax credits

Cooley et. al.: monetary policy

Stockman and Dellas: tariffs

Government policy and risk

Stockman (1988) “Fiscal policies and international financial markets” presents examples where the impact of government policy in an open economy is altered by the existence of international financial markets. Some general lessons:

- financial markets can eliminate the income effects of policies (alter the λ s) but cannot undo the substitution effects (see also Stockman and Dellas (1986))
- specification of the environment (policy and technology) and the set of available assets matters. Can make the general statement that financial markets affect the allocation of goods in equilibrium, but can't generalize exactly how. This may mean that the extension of the intuition from the real model with a TOT externality to a monetary model is not entirely straightforward.
- If some financial assets are “missing”, the reason they are missing probably matters for equilibrium allocations.

Other considerations

Dynamics

- reputation
- self-insurance – in response to risk, household's may build up precautionary savings, neutralizing the effect of policy.
- other margins – trade off between intertemporal price and intratemporal prices (see e.g. Costinot, Lorenzoni and Werning, “A theory of capital controls as dynamic term-of-trade manipulation,” (2013))

Asymmetry

- two country framework is a good start, but if the problem is spillover to many small countries, makes the problem of even a benevolent big country difficult

Quantitative importance

- what are the magnitude of the spillovers? Do the size of the externalities justify the cost of coordination?

Bottom line:

- intuition about spillovers and financial markets is unlikely to carry over across specific contexts. Need to write down the model that delivers the specific externality (reverse capital flows, exchange rate appreciation, asset price volatility), the exact policies that operate on those externalities, and the financial assets that agents may trade to hedge risk.