

Discussion of “How Much Risk Sharing Do
Financial Markets Provide?”” by Giancarlo
Corsetti and Luca Dedola (CD)

Bent Sørensen

University of Houston

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Very interesting paper with many ideas

Many loose ends, work in progress

I will focus on the loose ends...discussant's job...

Overview I

Paper claims to

- Assess degree of international consumption insurance... “how much”
- Provide empirical framework consistent with GE models of portfolio choice (Tille-van Wincoop, Devereux-Southerland)

I have trouble understanding either claim

Overview II

Specific questions asked:

- 1 Is International Risk Sharing (RS) “perfect” in the sense of Backus-Smith (1993)(BS)
- 2 Is *traded* risk fully shared?

Answers:

- 1 No, as found by BS.
- 2 No—maybe a little.

Overview III

Contribution

- 1 Estimate International Euler equations (mainly reject)
- 2 Consider portfolios that mimic macroeconomic risk
- 3 But, in which sense does failure or not of Euler Equations measure *how much* RS?

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“..failure to reject...evidence...that all RS opportunities it provides against fundamentals... are fully exploited”

Not really:

- With enough noise you can't reject anything
- Even if not noise: Euler equation derived from **permutation argument**, doesn't imply full exploitation of anything

More modest claim may be valid: “..failure to reject...suggests that asset markets are not the main obstacle to international risk sharing ”

Rejection of Euler implies one or more underlying assumption wrong

Euler Equations valid for countries i and j if

- Representative agent
- Same Utility function (CRRA)
- Forward looking agents
- Same time discount rate
- No “frictions” in financial markets
- No international friction
- Rational expectations, price taking agents,

Aggregate Euler equations "never" works

- Since Hansen-Singleton (1982) Aggregate Euler Equations have always failed
- even for one country
- exchange rate models even worse

Aggregate Euler equations "never" works

Combining Euler eq. for two countries with different currencies: Does it work?

Rejected for international data. (Surprise?)

Not new: Obstfeld (1987) finds same, others.

Estimating (?) GE model

Assumptions underlying Backus-Smith

- Pure RBC: Exogenous, fruit on trees tradeables and non-tradeables
- Exchange rates affected only by supply shocks to non-tradeables
- Flexible prices
- **Very specific** assumptions
- Exogenous supply of hair-cuts?

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Backus-Smith model implies:

$$(BS) \quad \Delta \log(C_{it}) = \Delta \log(C_{jt}) + RER/\sigma + u_t^1$$

where σ is CRRA param. and $u_t^1 \equiv 0$.

Linearized Euler equations implies:

$$(HS) \quad \Delta \log(C_{it}) = \Delta \log(C_{jt}) + RER/\sigma + u_t^2$$

where u_t is predictable at $t - 1$.

The nesting of BS and HS is neat.

What I understand is that rejection of HS \Rightarrow rejection BS.

I do not understand how rejection of HS informs about **degree of deviation** from BS.

If you want to quantify deviation.

Maybe calculate (something like)

$$\text{var}(u_t^1)/\text{var}(\text{output})$$

and

$$\text{var}(u_t^2)/\text{var}(\text{output})$$

where u_t^1 is the residual and

$$u_t^2 = u_t^1 - E(y_t^1 | I_{t-1}).$$

If we had a GE model that fits international data (incomplete markets, portfolio demand,..) the answer to the question of “how much” could be framed in simple welfare terms.

The current generation of models make great progress but still very stylized—don't fit the data.

Therefore,

- **measuring how much RS** better done with **simple** intuitive measures, motivated by theory
- **fitting GE models** should aim at narrowing down features to fit data

My work: Arrow-Debreu benchmark (AD) without non-tradeables

$$(AD) \quad \Delta \log(C_{it}) = \Delta \log(C_{Wt})$$

Sørensen, Wu, Yosha, Zhu (JIMF 2007) show countries with large foreign asset holdings closer to AD.

Becoming more(?) common to use BS as benchmark—but rests on very specific assumptions. (Backus-Smith found strong rejection).

So does AD, but simplest benchmarks tend to be more useful for empirical work(PIH, CAPM, Modigliani-Miller,...)

Empirical Issues

- Quarterly data not optimal
- Short term fluctuations may have small welfare effects
- Taste shocks likely to be severe in quarterly data:
Christmas, Summer Vacation
- Seasonally adjusted? (What is better?)
- Small estimated coefficients on output—due to noise?
- Ravillion and Chaudury ECA 97 argues better to restrict coefficient to world consumption

Empirical Issues II

“Sources of macroeconomic risk”

- GDP
- commodity prices
- labor income

An important issue to identify exogenous risk.

If you estimate a full model can back out—hard.

Labor income not really a source (corporations smooth wages)

Commodity prices may not be so important for OECD countries

Output growth seems least bad choice

Long-run collective goal must be to empirically *model* imperfect risk sharing.

Aggregate Euler equation doesn't fit even for US

First be able to model national data?

Probably need heterogenous agent models

Structural international models a big empirical challenge, not yet within reach I think.

Suggested approach to structural modeling:

- Simulate competing GE models with incomplete assets markets
- Calculate statistics (which?)
- Euler equations could be a statistic
- Econometrically see which model fits data better

Conclusions

Very interesting paper.

Does not answer “how much” RS

Contribution, I think, more methodological

- Standard aggregate Euler equations don't work for US, little hope for international
- Present results doesn't pinpoint dimensions where models fail