What Do International Asset Returns Imply About Consumption Risk-Sharing by Karen Lewis and Edith Liu

Discussion by Sebnem Kalemli-Ozcan

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What does the paper do?

- Estimates welfare gains from risk sharing in a hybrid consumption/asset pricing framework.
- Risk sharing literature focus on consumption based models and data.
  - ⋆ Find SMALL welfare gains.
  - ⋆ Have counterfactual predictions for asset returns.
- On the other hand asset market data implies LARGE welfare gains.
- Because consumption growth is low and smooth, while asset returns are high and volatile.

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Contribution

- Follow Bansal-Yaron (2004) who try to explain asset returns by introducing a persistent component to consumption growth (also stochastic volatility): "Long run risk."
- Use international risk sharing framework to calculate welfare gains of going from autarky to integration, ADDING this "Long run risk" to the model (Epstein-Zin preferences).
- Match asset return moments to consumption process parameters using SMM (for 7 countries) and use these "disciplined" parameters to examine welfare gains.

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Overall Impression

- This is a clever and an ambitious paper.
- The paper is 61 pages and still "preliminary and incomplete"; there is a to-do-list!
  - Another model based on habit formation
  - Incomplete markets
- To discipline the consumption model's parameters via asset returns is the right approach since international capital markets are the main mechanism where risks can be shared globally; asset prices should reflect views towards risk.

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Which Model?

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- The basic exercise is to add the new shock (long run risk) to make the model fit, but can we evaluate this empirically against the alternatives?
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Autarky and Integration

- Given the full commitment, it is hard to see why there is lower utility under complete markets?
  - ⋆ Why does not the first welfare theorem apply here?
  - ⋆ The explanation in the paper is (p17): To see the possibility of autarky to dominate consider timing of markets within the initial period?
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Simulated Method of Moments

- They match moments for:
  - ⋆ Std.dev. of consumption and dividend growth, first order auto-correlation of consumption growth, mean equity premium, mean risk free rate, std.dev. of market return, std.dev. of risk free rate
- Using these moments they back out the parameters for:
  - ⋆ var. of transitory consumption (σ^j), var. of transitory consumption/long run risk variance (φ_e^j), /dividend variance (φ_d^j), autocorrelation of long run risk (ρ^j), sensitivity of dividends to long run risk (ψ^j)

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Parameters

- Preference parameters are from BY (for risk aversion=γ=10 and for IES=ϕ=1.5): "estimates obtained by BY," how, no discussion? There is considerable debate on the appropriate values of these parameters.
- Well known that high risk aversion is needed.
- IES greater than 1 is critical for capturing the observed negative correlation between consumption volatility and price/dividend ratios.
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U.S. and the Other Countries

- They first run the exercise on the U.S to show the necessity of "long run risk" instead of iid (TABLE 1). But does this prove that the exercise is doable for other 6 countries?
- The fit fails for first order auto-correlation (no match) and std.dev of risk free rate (low in data); they argue adding stochastic volatility will improve these, but this is only true for the latter. Former probably fails due to short time series. TABLE 6-7.

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- Consumption data are very noisy, there seem to be huge taste shocks (consumption variance often larger than GDP variance)
- So everybody's estimates are noisy
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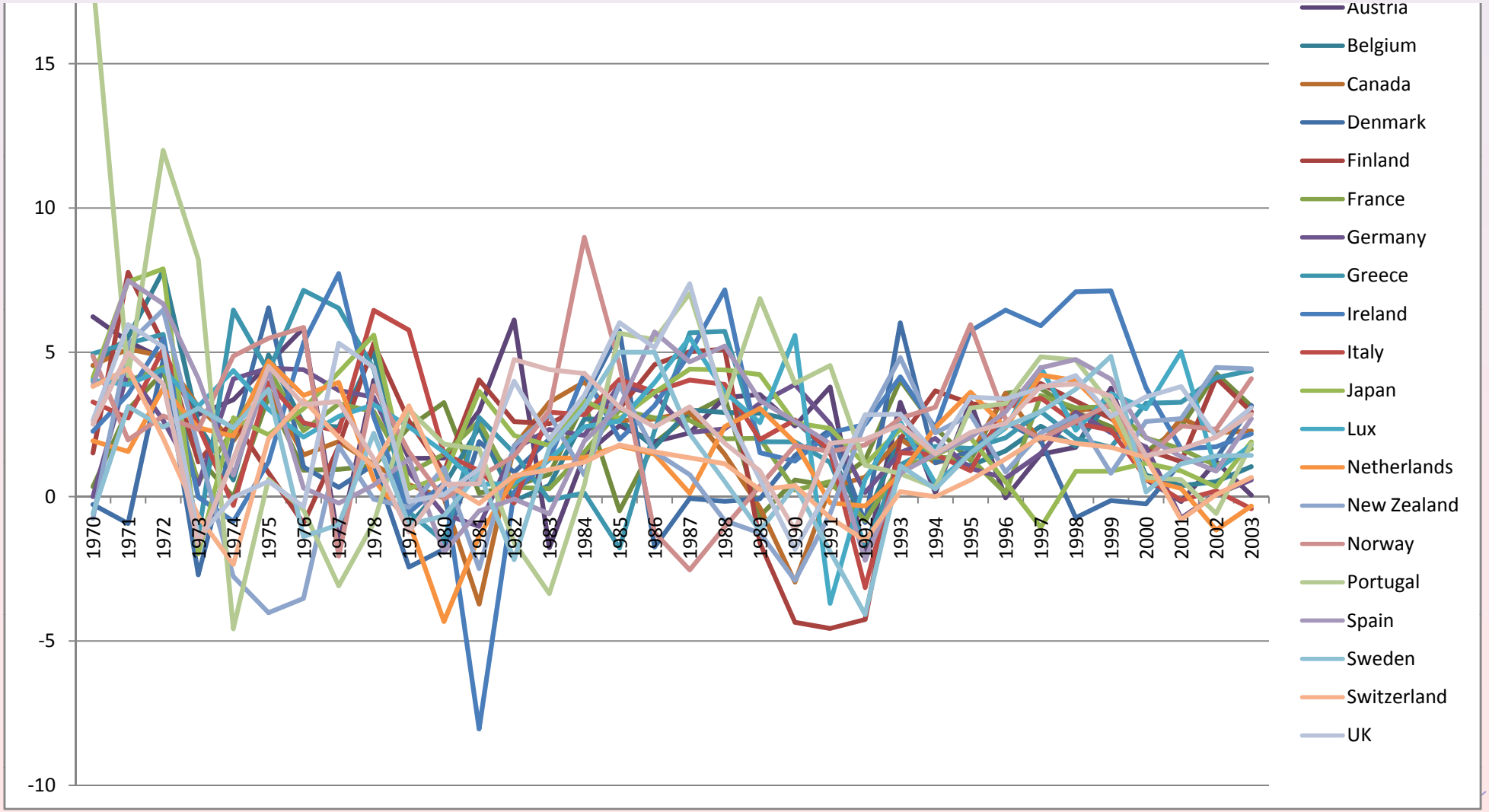
Noisy Consumption Growth by Country: OECD



Data Issues continued..

- BY use data for U.S is from NIPA, which is more reliable, and for a longer time span (1929–)
- Here they have to use PWT, which is less reliable (Deaton and Heston (2009), Johnson et al. (2009)) and for a shorter time span (1950–)
  - ⋆ Appendix says they use NIPA for U.S.?
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Aggregation

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Main Results

- Welfare gains are based on comparing consumption wealth ratio under autarky and integration, different weightings
- Unfortunately table 9 shows only "equal weight" option where this cannot be feasible. Extremely big numbers, up to 7000% welfare gain!
- Is this solely because long run risk is assumed to be uncorrelated? (seems so given the two extremes in table 9). Can we test this instead of assuming?
- Correlation of endowments from var-cov matrix of consumption growth; and assume this only for the transitory component, why?

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	Correlation with "World:"		
	Cons., 1970–00	Cons., 1990–00	Lewis and Liu (Cons., 1950–00)
Australia	0.31	0.31	
Austria	0.39	0.16	0.102
Belgium	0.63	0.24	
Canada	0.60	0.82	0.536
Denmark	0.45	0.03	
Finland	0.47	0.64	
France	0.73	0.49	0.532
Germany	0.59	0.37	0.171
Greece	0.61	0.13	
Iceland	0.14	0.17	
Ireland	0.43	0.47	
Italy	0.49	0.54	
Japan	0.76	0.15	0.316
Korea, Rep.	0.19	0.13	
Luxembourg	0.30	0.27	
Netherlands	0.57	0.23	
New Zealand	0.24	0.45	
Norway	0.16	0.10	
Portugal	0.25	0.10	
Spain	0.59	0.48	
Sweden	0.46	0.60	
Switzerland	0.62	0.73	
United Kingdom	0.47	0.79	0.620
United States	0.79	0.79	0.790

Welfare Gains from the literature

- van Wincoop (1994) and Kalemli-Ozcan et al. (2001): using similar methodologies compare the expected utility of consuming the country's own per capita endowment with that of consuming the country-specific portion of the world endowment under full risk sharing: potential welfare gains going from autarky to full
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Some Quibbles

- Some details on the SMM would be very helpful since these things can make a big difference: weighting matrix? lagged moments?
- Timing issue is confusing: ϖ (number of shares) was time invariant under autarky; it varies by time later.
- But given that countries can fully commit they initially sell off rights to own output and hence have claims on world output so ϖ_t is time invariant
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Minor Issues

- Some mess up in the notation:
- No β in the model, all tables have it, I assume this is δ discount rate
- No ϕ_d or ϕ_e in the model as oppose to tables, I assume this is φ

To sum up...

- This is a serious and an ambitious piece
- It would help the reader if the writing and the model is simplified and shortened
- Intuition should also be clarified and the extensions must be streamlined instead of presenting different models that can fit to the same data