Simulating Financial Integration
A Stock-Flow Consistent Perspective

Stephen Kinsella

Department of Economics,
University of Limerick
stephen.kinsella@ul.ie

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Joint work with Saed Khalil, CIFREM, University of Trento, Italy
### What we do

Stock flow consistent model of 2 countries, measure financial integration as trade moves from autarky to full economic and monetary union. We watch effects on GNP, CAB, household and firm portfolios in a simulation.
Summary

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Stock flow consistent model a la Godley and Lavoie (2007). Simulations of 3 1/2 scenarios: autarky, customs union, EMU.
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Results
EMU has no significant effect on the real side of the economy, but it has effects on households’ portfolio distributions. But convergence of asset prices and returns leads to a convergence on the households demand for foreign assets.
Part I

Setup
Idea

Stock Flow Consistent Model

1. Quadruple accounting
2. Balance/Transactions sheets of economies fully specified
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Kinsella (UL)
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- Can replicate orthodox/traditional models, eg ISLM.
- **CON** Models very complex (+300 equations).
Set up
Please see the paper for details

- Agents: Households, Firms, Government, Central Banks, Private Banks, all times 2.
- Simulation runs for 65 ‘years’.
Basic Idea

Figure: Ever closer union...
Scenarios

0. Autarky. No Trade.
1. Countries open to trade from autarky
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3. EMU. 1 Central bank, 1 currency.
Measuring Financial Integration

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\[ IFI_t^i = \frac{FA_t^i + FL_t^i}{GDP_t^i} \]  

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This measure has two advantages:

1. it is the financial analogue to measuring trade openness by the ratio of exports plus imports over GDP, and so is easily interpreted.

2. the measure is well established in the literature, and so the results of our simulations can be compared with other studies such as Lane and Milesi-Ferretti (2007).
Part II

Results
Figure: The evolution of country one real GDP in the case of autarky condition, open to trade, free trade, and monetary union.
Figure: The evolution of country two real GDP in the case of autarky condition, open to trade, free trade, and monetary union.
**Figure:** Price level in country one in the case of autarky condition, open to trade, and free trade.
Figure: Price level in country two in the case of autarky condition, open to trade, and free trade.
Figure: Supply of treasury bills in country one in the case of autarky condition, open to trade, and free trade.
Figure: Supply of treasury bills in country two in the case of autarky condition, open to trade, and free trade.
Figure: Demand for foreign assets with symmetric and asymmetric bills rate in both countries.
Figure: Index of financial integration in country one before and after monetary union.
Figure: Index of financial integration in country two before and after monetary union.
Figure: Household portfolio choice in the first country (first scenario).
Figure: Household portfolio choice in the second country (first scenario).
Figure: CAB, government budget balance, NAFA, and trade balance in the first country after opening to trade (first scenario).
Figure: CAB, government budget balance, NAFA, and trade account in the second country after opening to trade (first scenario).
Part III

Conclusion
Summary

Our Contribution (we think)

Introduce financial integration into SFC literature, introduce SFC literature to debate on costs and benefits of financial globalisation.
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Introduce financial integration into SFC literature, introduce SFC literature to debate on costs and benefits of financial globalisation.

Further Work
Alternative Measures of Integration, more robust treatment of interest and exchange rates, asymmetric shocks in a currency union, calibration of model with real world ‘external wealth of nations’ data.
References