

# 7<sup>TH</sup> JACQUES POLAK ANNUAL RESEARCH CONFERENCE NOVEMBER 9-10, 2006

The views expressed in this paper are those of the author(s) only, and the presence of them, or of links to them, on the IMF website does not imply that the IMF, its Executive Board, or its management endorses or shares the views expressed in the paper.

# Discussion of: Financial Integration, Macroeconomic Volatility and Welfare by Martin Evans and Victoria Hnatkovska

Fabrizio Perri University of Minnesota, Minneapolis FED and NBER

IMF Seventh Jacques Polak Annual Research Conference, Washington, November 2006



#### The Issue

What are the consequences of changes international financial integration?

#### The Issue

What are the consequences of changes international financial integration?

#### Answers from EH model

On co-movements: Large

On volatility: Small and ambiguous

On welfare: Tiny

#### The Issue

What are the consequences of changes international financial integration?

#### Answers from EH model

On co-movements: Large

On volatility: Small and ambiguous

On welfare: Tiny

What can we learn about financial integration and our models about financial integration?

 More financial integration implies more equalization of marginal valuations (MRS) across states and dates

 More financial integration implies more equalization of marginal valuations (MRS) across states and dates

#### Examples

 Complete Markets. Complete equalization of MRS across all dates and states, regardless of shock process

 More financial integration implies more equalization of marginal valuations (MRS) across states and dates

#### Examples

- Complete Markets. Complete equalization of MRS across all dates and states, regardless of shock process
- Financial Autarky. MRS driven solely by shocks process

 More financial integration implies more equalization of marginal valuations (MRS) across states and dates

#### Examples

- Complete Markets. Complete equalization of MRS across all dates and states, regardless of shock process
- Financial Autarky. MRS driven solely by shocks process In EH model MRS  $\simeq$  C, thus more integration leads to higher consumption co-movement (from 0 to 0.73), but not necessarily output co-movement

#### Financial Integration and co-movement: evidence

Table 2. Correlations with "World" Macroeconomic Aggregates (Medians for each group)

	Full Sample	Period		
	1960–99	BW	Common Shocks	Globalization
Output				
Full sample	0.18	0.11	0.20	0.03
	[0.04] ***	[0.04] **	[0.06] ***	[0.06]
Industrial countries	0.52	0.19	0.39	0.46
	[0.05] ***	[0.13]	[0.12] ***	[0.11] ***
Developing countries	0.10	0.09	0.18	-0.01
	[0.03] ***	[0.04] **	[0.07] **	[0.05]
MFIs	0.12	0.02	0.18	0.02
	[0.05] **	[0.06]	[0.12]	[0.09]
LFIs	0.09	0.09	0.18	-0.03
	[0.04] **	[0.07]	[0.10] *	[0.10]
Consumption				
Full sample	0.12 [0.04] ***	0.02	0.14 [0.06] **	-0.03 [0.06]
Industrial countries	0.45 [0.06] ***	0.06	0.33	0.57 [0.12] ***
Developing countries	0.02	-0.03	-0.02	-0.08
	[0.03]	[0.06]	[0.06]	[0.04] *
MFÍs	0.04	0.06	-0.03	-0.03
	[0.06]	[0.09]	[0.08]	[0.14]
LFIs	0.01	-0.03	0.04	-0.08
	[0.05]	[0.10]	[0.09]	[0.07]

The EH model (as many others) predicts a strong relation between financial integration and consumption co-movement.

- The EH model (as many others) predicts a strong relation between financial integration and consumption co-movement.
- Support for this implication is limited

- The EH model (as many others) predicts a strong relation between financial integration and consumption co-movement.
- Support for this implication is limited
- Main problem is the strong link between MRS and consumption (also not supported by pricing data)

- The EH model (as many others) predicts a strong relation between financial integration and consumption co-movement.
- Support for this implication is limited
- Main problem is the strong link between MRS and consumption (also not supported by pricing data)
- Next: look at the evidence using more sophisticated MRS

# Financial Integration and Volatitilty

Macro Volatility = Volatility of Underlying Shocks + Amplification

- In EH model (as in many others) shocks do most of the work.
- Small role of financial integration (Volatility of output goes from 0.77% to 0.84%
- Evidence from financial crises suggest a link between financial integration and shocks itself (in Mexico and Argentina large drops in TFP)

# Financial Integration and Volatitilty

#### Macro Volatility = Volatility of Underlying Shocks + Amplification

- In EH model (as in many others) shocks do most of the work.
- Small role of financial integration (Volatility of output goes from 0.77% to 0.84%
- Evidence from financial crises suggest a link between financial integration and shocks itself (in Mexico and Argentina large drops in TFP)
- Next: explore models with the volatility of shocks can depend on integration

# Financial Integration and Welfare

- In EH the gains of going from FA to BE are 0.006% of lifetime consumption
- From BE to HI even smaller

# Financial Integration and Welfare

- In EH the gains of going from FA to BE are 0.006% of lifetime consumption
- From BE to HI even smaller

Why?

# Financial Integration and Welfare

- In EH the gains of going from FA to BE are 0.006% of lifetime consumption
- From BE to HI even smaller

#### Why?

- Shocks to non tradable cannot (by assumption) be shared
- Shocks to tradables are trend stationary (AC = 0.7)
- Business Cycle Shocks are small (Lucas)

#### Is Financial Integration irrelevant?

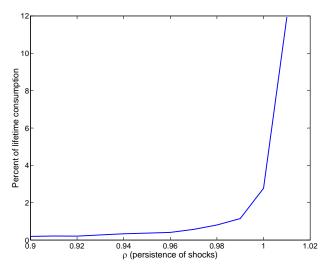
- Not if it affects trend growth (Obstfeld, 1994)
- Not if offers individuals (as opposed to countries) better insurance opportunities (Davis, Nalewaik and Willen, 2001)
- Not if shocks are not trend stationary (Aguiar and Gopinath, 2005)

# Gains from holding a world portfolio

$$\begin{array}{rcl} y_{it} & = & \rho y_{it-1} + \varepsilon_{it} \\ u(y_{it}) & = & \frac{1}{1-\sigma} (y_{it})^{1-\sigma} \\ \sigma & = & 2, \sigma_{\varepsilon} = 0.02, \beta = 0.99 \\ & & 200 \text{ countries, 200 periods} \end{array}$$

- If  $\rho$  is close to 1 shocks cannot be insured with a simple bond
- Welfare impact of stock market financial integration can be very large!

# Gains from holding a world portfolio v/s a country portfolio



#### What next

If gains are so large is then very important to study optimal portfolio diversification (EH, 2005)

#### What next

If gains are so large is then very important to study optimal portfolio diversification (EH, 2005)

Next: why does not capital flow from poor (and unstable) countries to rich (and stable) countries?