Discussion of: International Financial Integration and Economic Growth: Accounting for the Efficiency Effect

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The question

What is the effect of internationally financial integration (in particular FDI) on aggregate TFP?

- In theory a variety of reasons for which FI affects TFP (better practices, spillovers, increased competition, better allocation of resources etc.)
- In practice effect is hard to measure because of classical endogeneity problem
- Is TFP high in a given country because of FDI has arrived or has FDI arrived because high TFP?

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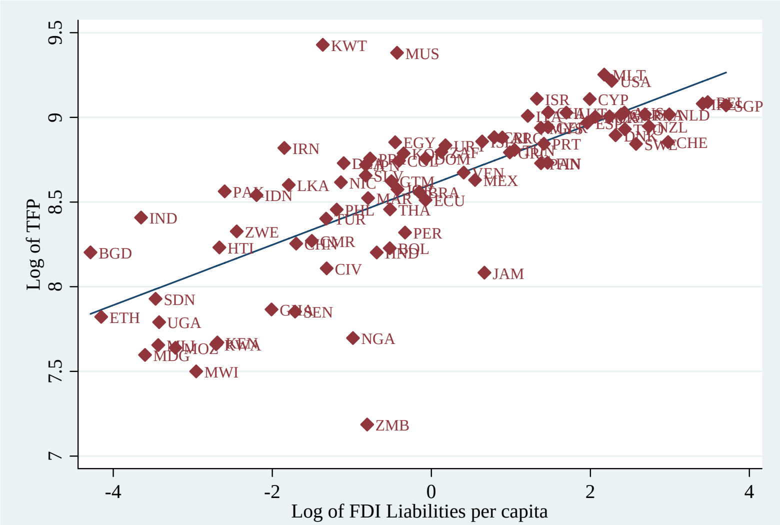
- In practice effect is hard to measure because of classical endogeneity problem
- Is TFP high in a given country because of FDI has arrived or has FDI arrived because high TFP?
- Nevertheless a fundamental and relevant question!

Some background data



Each point is an average for the period 1990-2003

What does the paper do..

Two things

- Measures the impact of FDI on TFP using a growth-accounting approach
- Computes the welfare consequences of financial integration in a framework in which FDI does affect TFP

and what I'll do

- Is the accounting approach helpful in dealing with the endogeneity problem?
- Another look at the data
- Final thoughts

The accounting approach, I

Production function (All in logs):

$$y = A + \gamma k_f + \alpha k \qquad \gamma = 10\%$$

$$var(y) = \underbrace{var(A) + 2\gamma cov(A, k_f) + 2cov(A, k)}_{TFP \approx 50\%} + \underbrace{\gamma^2 var(k_f) + 2\gamma\alpha cov(k, k_f)}_{FDI \approx 20\%} +$$

The key piece of data driving the result is a high $cov(k, k_f)$

The accounting approach, II

- Is high $cov(k, k_f)$ necessarily an indication of an independent effect of k_f on y?
- No. Since TFP (A) in general affects both k and k_f a high value of $cov(k, k_f)$ might be consistent with a world in which k_f has no independent effect on y

A test of the approach, I

Consider N small countries characterized by a (small) initial capital stock (owned domestically) k_{0i} and a productivity level A_i (possibly correlated)
Standard production function

$$y_i = A_i + \alpha k_i$$

Assume economies become financially integrated (MPK is equalized) and solve for steady state total capital and foreign capital.

A test of the approach, II

$$k_i = \left(\frac{\alpha A_i}{r+\delta}\right)^{\frac{1}{1-\alpha}}$$

$$k_{f,i} = \frac{(A_i + 1 - \delta)\left(k_i^a - k_{0,i}^a\right)}{1+r}$$

- k_i and $k_{f,i}$ increase with A_i, so positively correlated.
- Using the HKV method (with $\gamma = 0.1$) on artificial data from this model (easy to calibrate) one finds that FDI explains around 50% of total variation in y.

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- Obviously the conclusion is misleading as in this model everything is explained by TFP

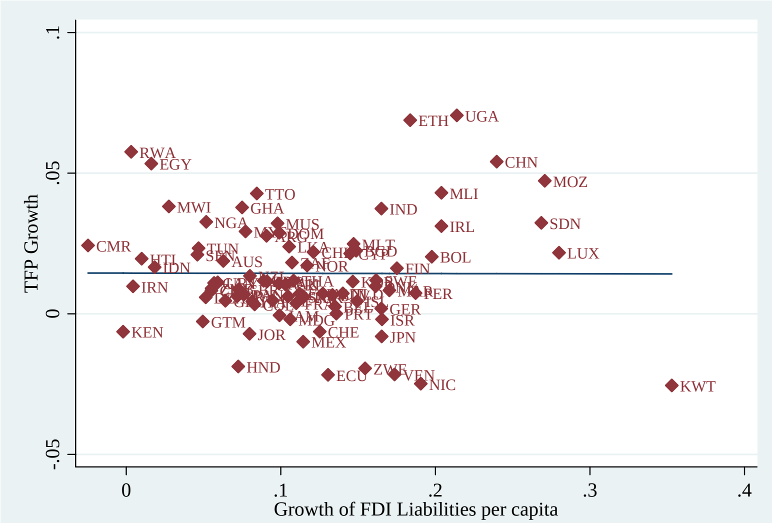
Bottom line

- This is not to say that FDI does not affect TFP.
- It simply says that the accounting approach employed in this paper unfortunately suffers of the same problems of the regression approach.
- The regression approach is tricked by high correlation between TFP and FDI, the accounting approach is tricked by high correlation between FDI and factors of production.

What to do then?

One simple way to deal with endogeneity is to focus on growth rates, since that growth rates of FDI, as opposed to levels, should be "less" endogenous

A dismal picture



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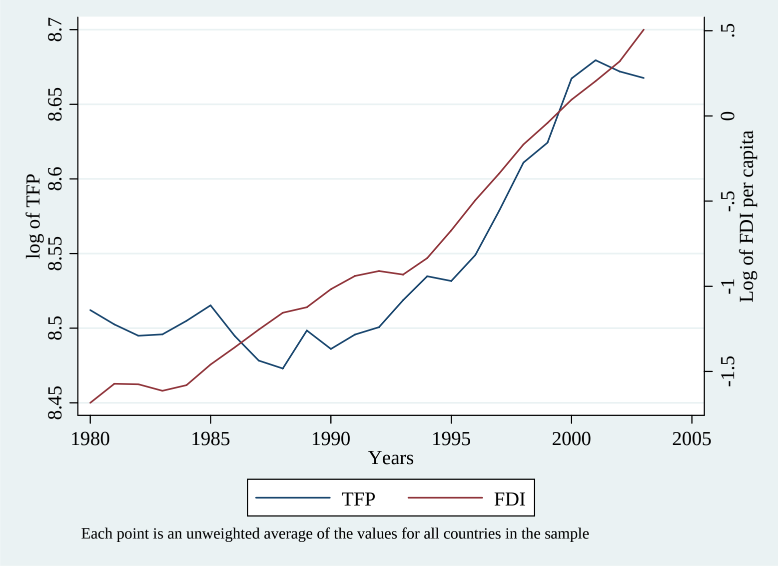
What to do now?!

Another way to deal with endogeneity is to focus on cross-sectional averages, under the assumption that cross-sectional averages of FDI, should not necessarily (although they might) depend on cross-sectional averages of TFP (as opposed to cross sectional variances)

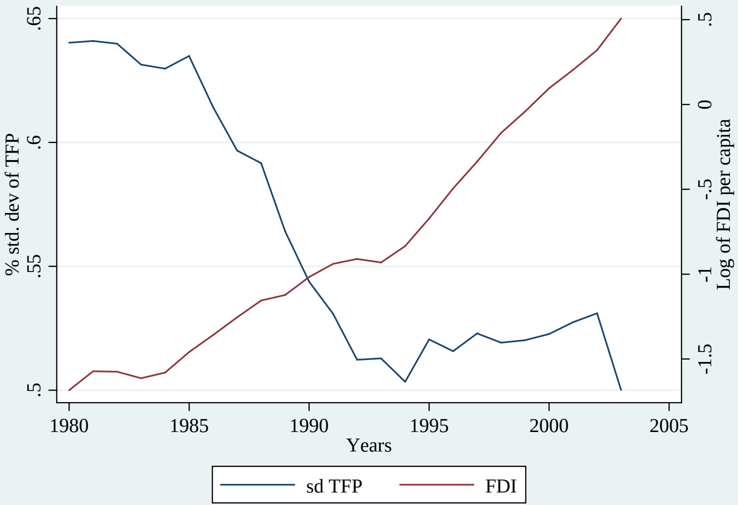
A nicer picture



Conclusions

- Very relevant paper and research agenda
- The jury is still out on quantifying the effect of financial integration on aggregate TFP
- Growth regression suggest effect at a country level the effects are small
- Cross sectional averages suggest that at a global level the effects might be more substantial

Financial Integration and Cross Sectional Variances



Each point is an unweighted average of the values for all countries in the sample