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Financial openness and financial development: an analysis using indices

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Abstract

This paper examines the link between financial openness and financial development through panel data analysis on advanced and emerging market countries. Using indices, financial openness together with institutional and educational variables explains a large part of the variation in financial development across countries and over time. Our analysis demonstrates that different indexing strategies serve to find better measures for financial openness and financial development in comparison with the individual indicators used in the literature. Our principal-component-type financial openness index conveys a positive effect on financial development independent from the lag structure or specifications used.

Keywords:

financial liberalization financial openness financial markets financial development

principal component analysis dynamic panel data analysis

JEL Classifications:

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Disclosure statement

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Notes

1. Non-debt-creating portfolio equity flows are defined as the sum of country funds, depository receipts, and direct purchases of shares by foreign investors (World Bank 2007).

2. The literature suggests the use of gross foreign direct investment, gross private capital flows, and some de jure type indices as measures of financial openness. Gross private capital flows are excluded from our analysis and are replaced by portfolio investment flows due to their discontinuity by the World Bank.

3. We only report the results for one of the most frequently used de jure type indices; the Chinn and Ito index of capital openness, for comparison reasons. We believe that these results guide in demonstrating the strength of our de facto type financial openness index in comparison with the individual de facto measures by the literature.

4. Chinn and Ito (2006) argue that the logarithm of GDP per capita is important in accentuating the link between financial deepening and rising income levels.

5. Given the close linkages between different dimensions of financial openness, excluding some variables and choosing one individual variable to portray a relationship can severely bias the coefficients of the estimated regression (Dreher 2006). The need for an overall measure of financial openness as well as financial development calls for the use of index measures.

6. By using an index measure for financial openness we can represent the gradual process of financial integration rather than the degree of overall openness in the financial markets. As Chinn and Ito (2008) express, individual variables used to measure financial openness do not fully account for the complexity of the problem.

7. For more information please refer to Ullah and Giles (1998) and Sheret (1984).

8. We re-estimated our regressions using standardized individual variables in equally weighted and coefficient-of-variation-type indices. The results depict similarities to those from Table 1. Furthermore, using mean adjustment for the variables prior to including them in an index provides similar results.

9. For a more in-depth discussion of the principal component analysis please refer to Jackson (1991), Dunteman (1989) and Jolliffe (2002).

10. The principal component methodology of Bo and Woo (2008) is similar to that proposed by the United Nations Conference on Trade and Development (UNCTAD) for constructing the Trade and Development Index (UNCTAD 2005). Bo and Woo (2008, 2010), Nagar and Basu (2002) and Klein and Ozmucur (2002/2003) provide different approaches in constructing indices analogous to the Trade and Development Index (TDI) with minor alterations.

11. This method makes use of all eigenvectors and proposes to use weights depending on the eigenvectors and eigenvalues.

12. We restrain from using the system GMM estimator due to the weak instruments problem. The number of instruments used in the estimations is large enough to create weak results for the serial correlation tests and the Sargan test of overidentification when using the system GMM estimator. Therefore, we rely on our first difference GMM estimates.

13. Any influence of financial openness is now conditioned on the history controlled by the first differenced lagged dependent variable (Huang 2006). This model is a restricted version of the static fixed effects specification and it includes dynamic effects through the lagged dependent variable that is included as a right-hand-side regressor.

14. To test for overidentifying restrictions we perform Sargan tests. We do not include the lag of the dependent variable as an instrument. We utilize the Arellano-Bond two-step estimator to avoid any panel-specific autocorrelation and to obtain better diagnostics results.

15. In the benchmark dynamic GMM estimations, all variables other than the lags of the dependent variable are treated as exogenous.

16. The missing observations for bond market development indicators could be the reason behind the non-significant results.

17. Similarly, the missing observations for the bond market development index could explain the negative coefficient for the financial openness index. The variation in the banking sector can directly affect the coefficient-of-variation-type banking sector development index, which depends on standard deviations. Hence, the negative coefficient for financial openness on banking sector development could be a result of the increased volatility that primarily affects the banking sector across countries.

18. We verify that the individual variables used in our indices are correlated. Our results show that we have positive correlations among individual variables.

19. The examination of the eigenvectors portrays that the use of individual variables to examine the link between financial openness and financial development would potentially lead to selection bias.

20. Huang (2006) reports similar results to our initial estimations. He finds the financial openness index constructed using the first principal component to be positive and significant for stock market, banking sector and financial development.

21. One pitfall is that the link between financial openness and bond market development disappears as in the case with equally weighted indices.

22. Depending on the choice of the individual banking sector development indicators, Baltagi, Demetriades, and Law (2007) find altering coefficients for the interaction term. This agrees with our finding of a positive coefficient using comprehensive indices, which are composed of various individual measures used in the literature for financial openness and banking sector development.

23. The same partial derivative evaluated at the minimum level of financial openness index is 0.005, and evaluated at the maximum value is 0.006. Alternatively at the minimum level of trade openness, the partial derivative of financial development index with respect to financial openness index is 0.48 and it is 0.489 at the maximum level of trade openness.

24. The long-run coefficient for financial openness using the banking sector development index is 0.643. The coefficients for financial openness using the bond and stock market development indices are 0.505 and 0.107 whereas for the overall financial development index, the coefficient is 0.715.

25. The results are available upon request.

26. We rely on the World Bank's income group definition when splitting our data set into developing and advanced countries.

27. Comparing the results from our developing country sample with those of the advanced countries, financial openness is found to be positive and significant for most cases with the exception of the banking sector development for advanced countries.

28. The results are available upon request. Comparisons to the literature should be taken with caution for a variety of reasons. Both the models used in estimations, the choice of years and the countries widely differ across studies. The underlying research materials for this article can be accessed at <https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx6ZXluZXBvemtva3xneDo2NTM2OTkwZDU3N2RkMThk>

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