

Comments on Lane and Milesi-Feretti, “International Financial Integration”

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Lane and Milesi-Feretti (LM) gather data on assets and liabilities of 18 OECD countries. The data is classified by type of asset – debt instruments, and equity instruments (either portfolio or foreign direct investment.) To some extent the data allow them to classify changes in asset and liability positions that occur because of capital flows versus changes in valuation. With this data, LM undertake two types of empirical examinations. First, they look at the correlation of international asset positions with various “explanatory variables”, such as the degree of financial restrictions, the depth of the financial market, the openness to international trade, etc. Then, they also examine returns on the various classes of assets (debt, portfolio equity and FDI), in an attempt to measure from the returns the degree of diversification that is being offered by international investments.

My comments come in two categories: brief comments about the data, and comments about how to interpret the findings. The latter set of comments is

broken into two parts, the first relating to the regressions describing asset and liability positions; and, the second relating to the empirical work on rates of return.

The Data

LM, in a series of papers, have performed an enormous service to researchers in international finance and macroeconomics. The truth is that the data that is easily available to researchers is not generally very useful. For example, as relates to this paper, usually our economic models point to changes in net asset positions as a variable of economic interest. But balance of payments data do not tell us that variable. The BOP data only tell us about flows of assets, and not about valuation changes.

I think the problem arises because the decisions about how to record international financial data were made in a different era of international finance models. In the IS-LM-BP era, capital flows is what mattered. The asset-market approach to international finance made it clear that capital flows were not so important, but the data collection methods never caught up. When I look at my current portfolio, I notice that I have a much smaller position in international equities than I did three years ago. That occurred because of valuation changes, not because I sold foreign equities. Certainly the value of my holdings – the price

per share – matters, but the IS-LM-BP approach gives it no place at all. Indeed under some new approaches, it is only the value of holdings that matter, and not the number of shares. Clearly LM are providing numbers that are useful, and the study of these numbers is useful.

Earlier work by LM has already shed light on important issues. For example, one finding, to which they refer a couple of times in this paper, is that the rate of return on foreign assets held by Americans has been much greater than the rate of return on U.S. assets held by foreigners. So they note that while the U.S. net asset position turned negative in 1989, it was not until 1998 that the net returns on investment turned negative. Rich Clarida, who is undersecretary of Treasury for economic affairs, recently referred this finding in an op-ed piece in the Financial Times to support his contention that the current account position of the U.S. is not a serious economic problem.

This data is not clean. It would be helpful if LM were to go into more detail in describing exactly how dirty it is. One thing that would help is more information about the data, and how it is collected. The main source of the data is the IMF's Balance of Payments Statistics, but the IMF in turn relies on national statistical agencies. What procedures do each of these 18 countries follow to collect this data? What are the pitfalls? Are there any ways to cross-validate the data? Can the data collected here be compared to that in other recent related data collection efforts?

An example of the type of concern I have is in Table 2.1. That table shows the change in external asset and liability positions for each country from 1995 to 2000, and breaks up the change into parts attributable to capital flows and parts attributable to capital gains. The striking thing is that in the top half of the table, almost all of the capital gains are negative. This is during a period in which the U.S. and European stock markets were experiencing unprecedented booms. Apparently, though the paper does not explicitly state this, the data are measured in U.S. dollar terms. So, the strengthening of the dollar reduces the value of securities denominated in other currencies.

It is also true that the top panel only contains data when FDI is measured at book value. The numbers for capital gains in the bottom half, where FDI is measured at market value are almost all positive. Still, some of the numbers are puzzling. To take a simple example, why would Canada have suffered negative capital gains on its foreign asset holdings? Surely much of those holdings are in the U.S. The U.S. stock market boomed, so portfolio equity gains should be positive. Moreover, the U.S. dollar held nearly constant relative to the Canadian dollar. How could the number be negative? In this case, I believe the explanation stems from two things: First, the authors note that Canada is the one case where portfolio investment is measured at book value. Second, there was a slight strengthening of the U.S. dollar. It is not completely apparent to me that

these two factors account for the negative capital gains. It is precisely this lack of transparency that needs to be remedied.

Economic Meaning

In section 3, LM examine the determinants of the extent of international financial integration, as measured by the sum of external assets and liabilities divided by GDP (which they call IFIGDP.) Their data is for eighteen countries, for the 1982-2001 period. They average data over four-year subperiods, so the time-series dimension of their panel is 5.

The real question is what do these regressions really tell us? Let me begin with the regressions meant to explain IFIGDP.

While the authors mean these to be descriptive relationships, and admit they are not causal, it is not clear to me what we can learn from these regressions. Let me give an example. We find that IFIGDP is significantly related to their measure of external account liberalization, when the volume of trade for the country is not taken into account. But when that variable is introduced, external liberalization becomes statistically insignificant and its coefficient estimate falls essentially to zero. What does that mean? Literally, holding the volume of trade constant, there is no relation between the measure of financial integration and the measure of external liberalization. Does this mean that external liberalization

does not account for any of the movements in the levels of foreign assets and liabilities?

I do not believe it does, but LM cannot refrain from drawing that conclusion, despite their caution that these regressions are not causal. They refer to the “explanatory power” of the variables included in the regression, and they tell causal stories for why each variable is included.

Continuing with my example, though, should we conclude that external liberalization does not explain the increase in IFIGDP? The answer must be no, because in order to answer that we need to know what causes the other variables in the regression to vary across observations. In this case, the volume of trade may actually be simply a better measure of capital account liberalization than the external account liberalization index. That is, EXTLIB surely is an imperfect measure of how easily capital account transactions can be made. Perhaps the openness to trade is more closely correlated with capital market openness than is EXTLIB.

Another example is the role of the variable measuring stock market capitalization. The biggest variation in stock market capitalization must be cross-sectional rather than time series, because some countries such as the U.S. have very extensive equity markets. But surely there are some deep historical and institutional factors that explain both the openness of U.S. markets to external

investments and the depth of their equity markets. The two variables are different measures of the same phenomenon.

I doubt LM disagree with that observation, but my point is simply that I am not sure how interesting these covariates are because of the interpretation problems. Watching Hamlet performed in the nude might be “interesting”, but not because it would help give a greater understanding of Shakespeare’s play. Here, it is “interesting” that the coefficient on external liberalization goes to zero when the trade and stock market capitalization variables are introduced, but is this anything other than a curiosum?

Some economic structure would be helpful in deciding how to conduct these unstructured exercises. An example of how this comes in is the decision of how to scale the variables. The dependent variable is foreign assets plus liabilities scaled by GDP. In some ways (as the authors note) it is no wonder that stock market capitalization is so strongly correlated with this variable. Foreigners can only hold large amounts of a country’s equities if the country has a lot of equities to sell. A country with few equity listings inevitably will have a low value for foreign holdings of its equities. If we were building an economic model in which depth of equity markets were going to explain something about external holdings, I would guess that the variable we would end up trying to explain is foreign equity holdings as a fraction of total market capitalization. So, what might be especially useful are regressions that have foreign equity liabilities divided by

stock market capitalization as the dependent variable. Is that related to the depth of equity markets?

My observation about the regressions on asset market returns is similar: some have economic interpretations, some do not. It would be useful to distinguish between them.

Table 4.1A illustrates this observation. In columns 1 and 2, LM use REQA as the dependent variable. This is a measure of each country's return on its holdings of foreign equities. It is constructed from the IMF data on asset positions, and from data on balance of payments flows.

In column 1, REQA is regressed on the MSCI world stock price index. This can be interpreted as a measure of the return on the "market" – defined in a global sense – portfolio. If REQA moves closely with the world stock price index, it perhaps indicates that countries hold well-diversified portfolios. In fact, they find that the coefficient in such a regression is 0.71, and the adjusted R-squared is 0.63, which does seem to indicate balance portfolios. (This may simply represent the fact that U.S. equities are large in the MSCI world stock price index, and large in country indexes.)

But the next regression in Table 4.1A seems to have an entirely different purpose. There, REQA is regressed on a variable LM call "PS Stock Return". That variable is defined as "the weighted average of stock returns on individual markets, as reported by MSCI, where the weights reflect the country's allocation

of portfolio equity assets as reported in the IMF 1999 Portfolio Survey.” In other words, it is measuring exactly the same thing that REQA is trying to measure – the return on each country’s portfolio of equities. It uses an entirely different measure of returns from an entirely different data source. So regression (2) is simply a cross-check for measurement error. I think that is a very valuable exercise, but its interpretation is completely different than the interpretation of regression (1).

Indeed, I found the economic findings in this section to be quite interesting – it appears that foreign equity holdings provide some measure of diversification of risk. But the measurement error cross-check is a little bit dispiriting. The coefficient and R-squared are about the same as in regression (1), where REQA is regressed on the world index. That makes it seem as though the measurement error is fairly large, and calls into question the usefulness of the economic regressions as measures of diversification.

Conclusion

LM are doing great work. They should keep it up, and the IMF should give them a lot of financial backing for this project. The data they are trying to collect is absolutely essential if we are to understand international capital markets. There needs to be more focus on measuring asset values and asset returns. We

need a new commitment to measuring international capital market statistics like the commitment we had after World War II. Economists and financial experts should guide decisions about what data is collected and how it is assembled.

Examples of the types of data refinement that are needed are: 1) country portfolios. That is, how are the total assets and liabilities of each country divided among the foreign country positions? 2) returns on each component of these portfolios. 3) asset flows. We need to find better ways to measure the flows, so that the difference between current account measures and capital account measures of asset flows is reduced. 4) asset positions of different sectors within each economy. For example, much has been made recently about the need for better information on the foreign currency denominated liabilities of the banking sector.

From LM we have already learned the value of data that better measures the variables of interest to economists, but we have also learned the weaknesses of what can be derived from current data collection efforts.