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The Composition of International Capital Flows

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Although currency crises may not be predictable, what is predictable is that after each one there will be calls to reform the “international financial architecture.” One proposal currently making the rounds is to stabilize capital flows with policies that either encourage “long-term” capital flows or discourage “short-term” capital flows. Examples might be tax or regulatory policies that provide incentives to issue equity rather than debt or, if debt is issued, policies that encourage long maturities or the rolling over of short maturities. Before the costs and benefits of these policies can be assessed, we need to have a theoretical benchmark that allows us to judge whether in fact this goal is desirable and, if so, whether a given policy is likely to be effective in meeting it. This *Economic Letter* addresses these questions. It starts by reviewing a few basic facts about recent international capital flows. It then discusses theories that attempt to account for these facts.

Some facts

Figures 1 and 2 display data on net capital flows to a group of 138 developing countries for the years 1980 and 1991 through 1998 (the data for 1998 are preliminary). These countries essentially make up the entire world economy exclusive of the original 23 rich OECD economies. Although for some issues, like risk-pooling and diversification, it is important to consider gross (two-way) flows, net flows measure the overall resources that are being transferred from rich to poor countries in support of their development. Hence, these data capture a crucial aspect of the functioning of international capital markets.

Three major changes are apparent in these figures. First, capital flows have grown dramatically since 1980, with most of the growth taking place during the 1990s. Total net flows (i.e., equity as well as short- and long-term debt) more than doubled between 1991 and 1998, even accounting for a slowdown after the 1997 Asian financial crises. Second, [Figure 1](#) shows that there has been a significant

increase in the share of private flows, which has come at the expense of official and government lending. Net private capital flows were about 50% of total net flows at the beginning of the 1990s. By the end of the decade they were about 85% of the total. Third, as seen in [Figure 2](#), there has been a major shift toward equity financing, in the form of either Foreign Direct Investment (FDI) or portfolio (i.e., non-controlling) investment. For example, in 1980 equity accounted for only 3.5% of total net flows. By 1991 its share had risen to 29%. By 1998, equity accounted for about 60% of total net capital flows.

Of course, what people are concerned about is not the growth in capital flows per se, but the volatility of these flows. Wide swings in capital flows can wreak havoc in small open economies. Accordingly, recent research has focused on whether some types of capital flows are inherently more stable than others. If so, then policies that alter their composition could perhaps stabilize them without adversely affecting their overall level.

The presumption has always been that FDI is the most stable type of capital, since it is related to specific investment projects that to a degree are irreversible. Next in line is supposedly long-term debt, followed by short-term debt and portfolio investment. (This ranking is not as obvious as it seems, since short-term debts can always be rolled over.)

Perhaps surprisingly, it is not clear from the data that this presumed volatility ordering exists. For one thing, capital flows were relatively volatile during the 1990s, while the share of FDI was increasing. In addition, simple statistical measures of volatility, like coefficients of variation and autocorrelation, do not reliably indicate that FDI is more stable than long-term debt, or that long-term debt is more stable than short-term debt and portfolio investment. For example, Claessens, Dooley, and Warner (1995) computed statistical measures of volatility for a group of five developed economies (France, Germany, Japan, Great Britain, and the United States) and five developing economies (Argentina, Brazil, Indonesia, Korea, and Mexico). They did not find any systematic pattern or ranking in the volatilities of the various types of capital flows.

Although simple measures of volatility do not confirm the conventional wisdom, a more refined analysis reveals a sense in which it might be true. Specifically, Chuhan, Perez-Quiros, and Popper (1997) point out that it could be misleading to look at capital flows individually. This is because there could be causal or feedback relations among them. In addition, there could be spillovers across countries. Hence, they conduct a multivariate cross-sectional analysis and discover two ways in which the conventional wisdom is true. First, they find that shocks to short-term capital flows are transmitted between countries far more readily than shocks to FDI or long-term debt. Second, they find that short-term capital flows respond strongly to other capital flows, while FDI does not.

Overall, the evidence suggests there might be some differences in the statistical properties of different kinds of capital flows. Unfortunately, it is not at all clear what this means. Deciding whether this evidence provides the basis for policy requires a theoretical understanding of the underlying determinants of capital flows. Otherwise, we might end up treating symptoms rather than causes.

Some theory

From a theoretical standpoint, it is important to keep in mind that all these various capital flows are just alternative ways of financing the same underlying economic activities. A basic result in economics says that with perfect capital markets, where there are no taxes or other frictions, the way projects are financed is irrelevant. This is the famous Modigliani-Miller Theorem. It says that what matters to the value of a firm (or, in this case, a country) is the size of its pie (i.e., its cash flows), not how the pie is sliced up. In addition to this, it is also important to keep in mind that capital flows must satisfy certain accounting, or adding-up, restrictions. For a given total flow, the only way equity can rise is if debt falls. All else equal then, there should be a tendency for broad categories of capital flows to be negatively

correlated. Of course, all else might not be equal, and advocates of policies to alter the composition of international capital flows presumably believe that changing the composition will change (i.e., stabilize) the level.

Although international capital markets are much improved, they are not perfect. So while the Modigliani-Miller Theorem provides a useful benchmark, there is little reason to believe that financing is irrelevant. Perhaps the most important friction in real world capital markets arises from asymmetric information. Firms often know more about their projects than investors, and investors know this. Researchers who have studied the effects of asymmetric information on capital structure generally conclude that it gives rise to a "pecking order." All else equal, firms would like to finance their activities using internally generated funds (i.e., retained earnings). If these are insufficient, then "safe" securities, like debt, are issued next. Only as a last resort, when not enough safe debt can be issued, do firms use equity to finance their investments.

Since the pecking order hypothesis is based on asymmetric information, it would seem to be especially relevant to international capital flows. In a recent paper, Razin, Sadka, and Yuen (1998) extend the pecking order theory to an international context. They point out that FDI is like retained earnings. Since funds are being transferred internally within an organization, problems of asymmetric information should be less severe for FDI. Hence, we should observe a predominance of FDI flows, followed by debt, and then portfolio investment.

Although this theory is consistent with the growing share of FDI, it has a couple of drawbacks. First, it is based on an inherently unobservable variable, viz., the degree of asymmetric information. This makes it difficult to explain, in a noncircular way at least, why capital structures differ across countries, and why they change over time. Second, the explosive growth in portfolio equity flows seems inconsistent with the pecking order hypothesis, which ranks this financing method last. These drawbacks call for alternative theories of international capital flows.

In some preliminary work, Glick and Kasa (1997) develop and test a theory that links the composition of international capital flows to the properties of national output shocks. We abstract from problems of asymmetric information and assume that risks are efficiently pooled across countries. We then work backwards to construct portfolios that deliver this efficient risk-sharing arrangement. The crucial idea is that while transitory idiosyncratic shocks can be effectively diversified by bonds, permanent shocks must be diversified via equity trade. Unlike equity, bonds must be paid back or rolled over, so permanent reductions in a country's income cannot be offset by borrowing. However, to the extent that a permanent shock is specific to a given country, its adverse consequences can be mitigated by exchanging equity shares. Consequently, if there are any cost advantages to issuing debt rather than equity, this approach suggests that national debt/equity ratios should be positively related to the relative importance of transitory output shocks.

In contrast to the pecking order hypothesis, a risk-sharing approach is in principle easily tested, since it is based on observable data. The problem is getting data on the stocks of each country's (gross) equity holdings and (net) debt. So far, we have obtained these data for seven wealthy OECD countries. Our preliminary results indicate that there is indeed a positive relationship between the relative importance of transitory output shocks and national debt/equity ratios. This suggests that risk-sharing plays a role in determining the composition of international capital flows.

Conclusion

Do these theories provide enough understanding to predict confidently the costs and benefits of recent policy proposals? Despite being a co-author of one of the studies, I would say the answer is a resounding no. Current pecking order theories are static and untested. A risk-sharing approach is more easily tested, but suffers the drawback of assuming from the outset that capital markets are efficient.

This makes it unsuitable to address policies that are designed to *improve* the functioning of capital markets. Hence, besides the proverbial call for more research, this *Letter* suggests a note of caution concerning recent proposals to change the composition of international capital flows.

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