

CAPITAL MARKET INNOVATIONS: A WAY TO INCREASE DEVELOPING COUNTRY BOND ISSUES

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The international bond markets have failed to realize their potential as a source of development financing. Legal restrictions imposed by the member countries of the Organization for Economic Cooperation and Development have combined with structural and financial constraints faced by the developing countries to inhibit the issuing of bonds. Investors in developed countries have been discouraged from buying these bonds for the same reasons. In this article, Scott Shane examines a number of capital market innovations that can help overcome these hurdles.

INTRODUCTION

Historically, the international bond market has not been an important source of external development financing. Analysts studying this phenomenon have generally concluded that investors and borrowers in the developing country bond market have faced severe constraints. Investors have been deterred by legal restrictions on their purchase of foreign assets, discriminatory tax treatment against developing country bonds, illiquidity of less developed country (LDC) bonds, the transfer risk involved in lending to countries frequently short of foreign exchange, and the risk of default. Borrowers have been restrained by the high cost of raising funds on the international bond and foreign bond markets, and the relative complexity of bond issuance as compared to bank borrowing.¹

Over the past three years, a quiet revolution has begun in the international bond market. The new instruments and practices that have emerged to challenge the traditional Eurobond could help to spark an increase in bond lending to LDCs by overcoming the barriers mentioned above. This article will describe ways that can be used to overcome the obstacles that limit international bond lending to developing countries

LEGAL RESTRICTIONS

Legal restrictions have inhibited the purchase of LDC bonds by investors in developed countries in two ways. First, institutional investors in developed

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1. Hong-Shen Cheng, *International Bond Issues of the Less Developed Nations: Diagnosis and Prescription* (Ames, Iowa: Iowa State University Press, 1969), pp. 3-8.

countries are required to buy rated paper.² Consequently, the number of LDCs that can place bonds with them is limited to only the most creditworthy borrowers. Second, quantitative limitations have been imposed on the foreign security holdings of institutional investors. For example, insurance companies and pension funds chartered in New York State are limited to foreign security holdings of no more than one percent of total assets. Given this restriction, developed country borrowers such as Denmark and Sweden have tended to crowd out less highly-rated LDC borrowers in the international bond market.

These two types of regulations have led to innovations in the international bond market which can be used to raise the credit ratings of LDC bond issues. Among these, two are particularly important. First, some banks have begun contracting with insurance companies to guarantee debt service on loans to LDCs. For example, in May, 1984, Citibank contracted with Cigna, a major American insurance company, to cover part of its loan portfolio, including some floating rate notes. Though the deal was later canceled in February, 1985, due to definitional differences, it brought attention to a new innovation in development finance — private insurance.³

Private insurance need not be limited to bank loans. Bond issues could also be insured. This could happen in either of two ways. Firms in LDCs could insure the purchaser of the bond against the possibility of default by paying a premium to an insurance company. Conversely, investors wishing to take advantage of high returns on LDC bonds could also insure payment on those bonds by paying a premium to insurance companies. Whether paid for by the borrower or the lender, this would raise the rating of LDC bond issues, thereby making them more attractive to institutional investors.

In a second scenario, developing countries could issue bonds backed by lines of credit. For example, Pemex, Mexico's national oil company, and Petrobras, Brazil's national oil company, have issued commercial paper in the United States using backup lines of credit.⁴ Similarly, India and Thailand recently issued a combined total of \$700 million in commercial paper backed by bank lines of credit.⁵ These lines of credit would be used in the event of a foreign exchange shortage to pay the debt service on the bonds.

The percentage of the bond issue to be backed by a line of credit is determined by the trade-off between the bank's fee for the line of credit and the different interest rates at which it could borrow with different bond ratings. For example, a bond issue of \$1 million can be financed in two ways. The first involves a 100 percent line of credit costing \$50,000 a year with a coupon rate of 8 percent. This arrangement yields a AAA rating. The alter-

2. Rated paper are issues which receive credit ratings from American security evaluators such as Moody's or Standard and Poor's. In order to receive a rating, an issue must fulfill certain requirements defined by the Securities and Exchange Commission.

3. Andre De Lattre, "Innovative Approaches to the Debt Crisis," *Bankers Magazine*, May-June 1985, p. 36.

4. Laurie Goodman and Nancy Worth, "The Future of Commercial Banks in LDC Financing," *Bankers Magazine*, Nov.-Dec. 1981, p. 83.

5. *Financial Market Trends for 1985*, (Paris: OECD, 1986), p. 61.

native is a 50 percent line of credit costing \$25,000 with a 10 percent coupon rate. This yields only an A rating. Which one would the issuer choose?

The first option costs \$50,000 plus 8 percent of \$1 million, or \$130,000 per year. The second option is cheaper, as it costs \$25,000 plus 10 percent of \$1 million, a total of \$125,000. Note that the effective rates of interest are 13 percent for the first option and 12.5 percent for the second. Obviously, the latter would be chosen.

Both bonds which are insured and bonds which are backed by lines of credit help raise the credit rating of the bond issue. This allows LDCs to circumvent regulations which limit institutional investors in developed countries to holding only rated paper and reduces the likelihood of LDC bond issuers being crowded out of the international bond market.

DISCRIMINATORY TAX TREATMENT

In addition to legal restrictions, another barrier to LDC borrowing is discriminatory tax treatment of foreign asset holdings in developed countries. This discrimination is the result of different taxation rates on different bonds ranging from zero percent on state and municipal bonds in the United States, to 70 percent on corporate bonds in some European countries.⁶ Tax discrimination discourages the purchase of LDC bonds since it gives them a lower after-tax rate of return for a given coupon rate than alternative tax-free municipal bonds.

The existence of the Eurobond market constitutes the most important remedy for this problem. Tax exemption creates an advantage to the borrower only when the bond-holder in practice submits to taxation. Since there are relatively few regulations on the Eurobond market, many of the issues on the international bond market permit the evasion of taxes. By reducing the importance of taxation as a motivation in choosing an investment, the Eurobond market has, in essence, reduced the importance of tax discrimination against LDC bond issues.⁷

Tax swaps are another innovation that helps LDCs deal with the problem of tax discrimination. The mechanism works as follows: Individual A, from a developed country, holds tax-exempt securities, but is unable to take advantage of the tax benefit. Individual B, from an LDC, holds taxable securities and would like to acquire the tax benefit. If A and B trade their securities, and B pays a fee to A for the privilege of acquiring the tax benefit, both are better off. The LDC gains the further benefit of having its securities available abroad.

In short, both the existence of the Eurobond market and the development of the tax swap are innovations that can reduce discriminatory tax treatment as a barrier to the issue of LDC bonds.

6. Richard N. Cooper and Edwin M. Truman, "An Analysis of the Role of International Capital Markets in Providing Funds to the Developing Countries," *Weltwirtschaftliches Archiv* 2 (June 1971): 171.

7. Financial Market Trends, *op. cit.*, p. 37.

THE LIQUIDITY PROBLEM

A third barrier that has traditionally limited LDC bond issues is the lack of liquidity of these bonds. As the secondary market for developing country bonds lacks depth and resiliency, borrowers have had to offer either a liquidity premium or shorter maturities on their bonds. Both conditions have discouraged new bond issues.

Two capital market innovations can be used to eliminate the liquidity problem. The first is the continued use of debt discounts to develop a true secondary market for LDC debt. If banks are able to sell their LDC debt, then the size of the secondary market is bound to grow. Moreover, if debt is sold for a percentage of its face value that corresponds to a discount which represents reduced desire to hold the country's obligation, the opportunity is created for these instruments to sell at a premium at times of high demand. Eventually this discount market will lead to the creation of a secondary market similar to the so-called junk bond market in the United States.⁸ A true secondary market such as this would permit the issuance of LDC bonds with longer maturities and with liquidity premium-free coupon rates.

The other innovation that would increase the liquidity of LDC bonds is the development of mutual funds or "bond funds." These mutual funds would reduce the liquidity problems that arise from the lack of depth in the secondary market. Grouping a number of LDC bonds into a single package would diversify risk and attract buyers. This would in turn increase the frequency of turnover of the bonds and give the market more depth.

TRANSFER RISK

Transfer risk is the danger that the debtor will be unable to convert debt service into the creditor's currency because of insufficient foreign exchange. Such shortages have a variety of causes including credit market fluctuations, debt service mismatch, and volatile export earnings. Each of these requires a different solution.

For a country whose foreign exchange shortage is the result of changes in the international credit markets, an important innovation is the use of debt service formulas on floating rate bonds which adjust debt service to market conditions. The price-level indexed bond is the best example of these. With this bond, a range of interest is contractually fixed at some spread over the real rate, while the outstanding principal is adjusted periodically for changes in some general price level.⁹

An important question that arises with indexed debt is the choice of the index, since different borrowers want different base currencies and different price indices. However, a large number of LDCs have been willing to accept

8. Jay H. Newman, "LDC Debt: the Secondary Market, the Banks and New Investment in Developing Countries," *Columbia Journal of World Business* (Fall 1986): 72.

9. Donald R. Lessard, "International Financing for Developing Countries: the Unfulfilled Promise," *World Bank Staff Working Papers*, (Washington: World Bank), 1985, p. 38.

a standard combination of a claim indexed to the U.S. price level and denominated in Special Drawing Rights. Although this type of measure goes a long way toward reducing the negative impact of credit market fluctuations on debt service requirements, it does not provide LDCs with a safety valve in the case of foreign exchange shortages resulting from world inflation or shocks to export production.

Debt service mismatch is the cause of foreign exchange shortages when the servicing of debt begins too early for the project to generate the export revenues needed to pay its debt service. Two innovations deal with this problem. The first is the graduated payment loan. It solves the illiquidity problem by allowing debt service to start low and build up gradually. Thus, when the earning power of a project is low, debt service is low. As the project matures, the various economies generated by operating at full capacity are realized. The earning power of the project improves and debt service increases.¹⁰

A second innovation to reduce the foreign exchange shortages resulting from debt service mismatch is bonds with balloon repayments. This type of bond requires periodic payment of interest, but the amortization is not due until maturity. Thus, the debtor who uses it has the opportunity to generate profits and save them so that the amortization can be paid at maturity.

Sometimes foreign exchange shortages are not the result of immature projects, but are due to exogenous shocks to the export sector. To deal with this type of problem, bonds with the timing of repayments linked to trade flows have been developed. Under this type of obligation, debt service payments are held constant in relation to export receipts. When export capacity falls in response to an exogenous variable, such as a crop failure, the debt service also falls. This unpaid debt service is then subject to provisions for catching up in future years.¹¹

A similar type of innovation is the commodity-linked bond. This is a debt instrument issued by a developing country whose foreign exchange earnings come from a small number of primary product exports. The commodity-linked bond ties debt service to the commodity prices; when the price is low, debt service is low, and when the price is high, debt service is high. This linkage between debt service and commodity prices facilitates debt service payment.

It has often been argued that commodity linkage has failed to attract the attention of investors. However, this unpopularity has existed because the commodity linkage has been applied to bank loans, not to bonds. Banks must borrow the funds they lend out. In order to control interest rate risk, they must match the interest rate structure of their assets and liabilities by tying the return on assets to a market rate. Consequently, the commodity-linked loans offered by banks tend to be either very short term or issued on a rollover basis in order for them to avoid cash flow problems. However, institutional

10. Krishan G. Saini, "Capital Market Innovations and Financial Flows to Developing Nations," *World Bank Staff Working Papers*, (Washington: World Bank), 1986, p. 8.

11. Lessard, *op. cit.*, p. 38.

investors do not have to match the interest rate structure of assets and liabilities.¹² They could thus purchase long-term commodity-linked bonds and gain from the reduced interest rate.

Another approach to the problem of shock-induced foreign exchange shortages is the issuance of income bonds. Income bonds are debt instruments that require the payment of interest only when the debtor earns sufficient funds to make payment. If the issuer sustains losses or does not have sufficient earnings to pay the interest, then the interest is carried over to a time when earnings are sufficient.¹³ Income bonds allow an LDC facing an exogenous shock to the export sector to avoid a foreign exchange crunch. In this way, they reduce the transfer risk involved in lending to LDCs.

Foreign exchange shortages are also triggered by rapid amortization of debt due to high inflation. In an inflationary environment, even when nominal interest rates keep pace with inflation and the real value of debt remains constant, real amortization accelerates. This shortens the life of an obligation and increases the short-run financial burden. When the short-run financial burden is increased, the foreign exchange necessary for debt service is redistributed. This could create financial difficulties, even when there is no underlying economic problem with the country's ability to pay its debts.¹⁴

The flexible maturity bond solves this type of foreign exchange shortage. Under the flexible maturity bond, debt service payments are held constant in absolute terms, or possibly in relation to export earnings. Thus, when interest rates rise, the amortization component of debt service declines. The maturity of the loan is increased to reflect this. Moreover, if interest rates rise sufficiently, negative amortization will occur, so that lenders will be providing borrowers with new money.¹⁵

The flexible maturity bond has already been used in syndicated loans. The World Bank has recently allowed cofinancing schemes to include flexible maturities as well as other instruments which decrease the transfer risk involved in lending to LDCs.¹⁶ The success of this feature in bank lending indicates that it may be useful in bond lending to developing countries as well.

Sometimes an LDC will allow real amortization to speed up, particularly if inflation leads to rapid increases in export values. Therefore, a useful variation on the flexible maturity bond would be the addition of a "put" option which allows the borrower to choose between paying the higher debt service or stretching out the maturity when there is a rise in interest rates.¹⁷

A final approach to helping lenders deal with transfer risk is the development of a futures market in LDC bonds. This market could be an expansion

12. Laurie Goodman, "An Alternative to Rescheduling LDC Debt in an Inflationary Environment," *Columbia Journal of World Business* (Spring 1982): 24.

13. Simon Perry, ed. *Euromoney Yearbook 1985* (London: Euromoney Publications, 1985), p. 163.

14. Goodman, *An Alternative . . .*, *op. cit.*, p. 21.

15. Saini, *op. cit.*, p. 7.

16. Goodman and Worth, *op. cit.*, p. 71.

17. Goodman, *An Alternative . . .*, *op. cit.*, p. 25.

of the US commodities market, where Japanese, Canadian and British securities are sold. If this were done, risk-averse investors who need to purchase LDC assets to match liabilities owed in these countries would be induced to purchase LDC bonds knowing they could hedge the risk of default. For example, an insurance company could purchase Mexican debt to offset a Mexican liability and purchase a futures contract to ensure that the asset and the liability would match at the time the liability comes due.

DEFAULT RISK

Default risk, or the risk that the borrower will become insolvent, is another barrier to bond lending to LDCs. Bond investors have generally been unable to diversify their risks because of the small size of their portfolios. Three capital market innovations are available to reduce this problem. The first is the grouping of LDC bonds in various countries into "bond funds" (as mentioned previously). Its desirability is based on the theory of portfolio diversification. This theory holds that investors do not seek to maximize their return on all investments, but rather seek to hold a basket of investments on which the portfolio risk is minimized and return maximized.

A developed country "bond fund" would allow lenders, previously deterred from building this type of portfolio because of inadequate capital or expertise, to purchase LDC bonds. By purchasing shares in a "bond fund," these investors could gain access to an area of high return on investment while maintaining well-diversified risk.

A second approach to reducing the risk of LDC insolvency would be to collateralize the bonds. This could take the form of direct collateralization, as in the case of international collateral trust bonds or of equipment trust certificates. Collateral trust bonds are bonds that are underwritten by securities such as stocks and bonds owned by the issuing corporation, or foreign exchange reserves owned by the issuing country. International collateral trust bonds, if issued by corporations such as Hyundai in Korea or Petrobras in Brazil would require these corporations to offer stocks and bonds issued by developed country governments or multinational corporations as collateral for their issues.

International trust bonds (or exchange participation notes) issued by LDC governments are notes backed by a central bank guarantee of foreign exchange equal to the amount of debt service due each year. Since not all bonds are backed by these notes, their existence would segment the lending market between those lenders who were interested in a high return regardless of the risk and those who preferred a low risk and low return. Accordingly, the coupon rate would be higher on the unbacked bonds than on the backed ones. With this division of the market, the overall rate paid by the developing country on all its debt combined would be lower, because risks would be assigned more appropriately and total risk premiums would fall.¹⁸

18. For example, suppose that a country wants to borrow \$500 million in loans for 10 years and its creditors want to earn a 10 percent interest on these loans. The country has yearly exports which total \$100 million and which average a 10 percent chance of a 10 percent shortfall every year. This means that the creditor

Another form of collateralized lending is equipment trust certificates. These are notes that would be used when LDCs want to raise funds for transportation projects. Regulations governing the issues of these certificates require developing countries to allow title of the transportation equipment to be held by a trustee. In the event that the borrowing company failed to make payment or otherwise breached the terms of the agreement, the trustee would repossess the equipment. For example, if Varig, the Brazilian airline, wished to purchase additional 747s, it would borrow the necessary funds by floating a bond issue backed by equipment trust certificates. Then, if Varig failed to pay the amortization and interest on the bond, the trustee would have the airplanes turned over to the lenders.

Collateralization can also be extended to project financing. An example of this is the issue of \$50 million production guaranteed bonds by the Congo government in 1981 to finance an oil drilling project. These bonds were backed by a foreign company's expected petroleum production and were syndicated by London banks. By securing its bonds with specific foreign currency revenues, a country previously deemed too risky for the bond market was able to obtain financing.¹⁹

COMPLEXITY OF BOND ISSUES

Another reason development financing through bond issuance has not been popular in recent years is that issuing bonds is more complicated and expensive than borrowing from banks. This is primarily because the bond issues in the world's largest financial market, the United States, must comply with the extensive and complex disclosure regulations of the Securities and Exchange Commission (SEC).²⁰

These regulations require LDCs to hire scores of accountants, lawyers, and economists to analyze the vast amount of statistical data needed to satisfy all the legal requirements. The lack of sufficient information about the constitution of LDC firms and their failure to publish up-to-date financial data has meant that LDCs have had trouble attracting the attention of investors in foreign bonds.²¹

must earn a one percent premium to equalize this loan with a risk-free loan, plus an extra something for his trouble. Suppose the creditor wanted an extra one-quarter of a percent for his trouble in tracking and responding to this risk, then the total cost of the debt would be 11.25 percent per year. With exchange participation notes segmenting the market, this figure would be lower. Indeed, half of the debt would face no risk at all because of the guarantee, and would cost only 10 percent per year. The other half would face a 10 percent chance of a 20 percent export shortfall every year. In this situation the creditor would expect a two percent premium to equalize this loan with a risk-free loan plus one-quarter of a percentage point supplement to cover the cost of tracking and responding to this risk. The interest cost of this half of the debt would be 12.25 percent. Therefore, the average cost of the debt would be 11.125 percent per year, one-eighth of a percentage point lower than before.

19. Richard M. Moose, "Alternative Sources of Capital," in *African Debt and Financing*, edited by Carol Lancaster and John Williamson, (Washington: Institute for International Economics, 1986), p. 153.

20. Cynthia S. Griselda, "SEC to Allow Commodity Markets to Trade Futures on Three Foreign Governments' Debt," *Wall Street Journal*, 13 March 1987.

21. Felipe A. M. Balze, "The Eurocurrency Markets: Access by Latin American Borrowers," in *Capital Markets Under Inflation*, edited by Nicholas Bruck, (New York: Praeger, 1982), p. 407.

The market has developed two solutions to this problem. The first is the floating rate note on the Euromarket. These are notes issued at rates which are readjusted every six months and are tied to the London Interbank Borrowing Rate (LIBOR). Because they are issued on the Euromarket, they are not subject to SEC regulations. Moreover, they require less documentation than a traditional bond and can be underwritten within a few hours.²² Therefore, they enable LDCs to avoid the cost and complexity of issuing bonds on the U.S. market.

The second way of attracting foreign investment is the commodity-linked bond. By linking a security with a commodity, the issuer can eliminate the need for heavy documentation and disclosure rules, as the country's ability to pay is tied to the value of the commodity, which can be easily tracked. A good example of a commodity-linked bond is the Mexican "petrobond." This issue is backed by Mexican crude, and the payment at maturity reflects changes in its value.²³

COST OF FUNDS

The relatively high cost of bond lending has traditionally limited the number of developing countries choosing to issue bonds instead of acquiring syndicated loans. The high cost of bond issues has resulted primarily from extensive underwriting fees and costs which syndicated loans do not have. However, recent innovations in the Euromarket are lowering the interest costs of bond financing enough to compensate for the higher non-interest costs. These innovations — interest rate and currency swaps, shared equity bonds and bonds with equity warrants — will help to increase the amount of external development financed through bond issuance by lowering the cost of this form of financing.

Interest rate swaps allow LDCs to save money by giving them fixed rate debt, the most appropriate form of financing given their development needs, at a cheaper rate than they could otherwise obtain. Under interest rate swaps, a borrower with a comparative advantage in acquiring floating debt, but who wants a fixed rate, exchanges it with a borrower who has a comparative advantage in the acquisition of fixed rate debt, but who wants a floating rate. This allows LDCs who do not have a comparative advantage in acquiring fixed rate debt to acquire funds more cheaply than if they approached the market directly.

Since swaps require that the two parties assume the risk of the other's default, some LDC borrowers are not sufficiently creditworthy to tap the swap market directly. These borrowers gain access to the market by paying a fee to a money center bank which acts as a guarantor and arranges the swap. In the event of a default by one of the parties, the bank assumes the obligation held

22. Rimmer DeVries, "Global Capital Markets: Issues and Implications," paper presented at the Wallenberg Forum, Georgetown University, Washington, D.C., October 2, 1986.

23. Mary Greenebaum, "Why Americans Are Investing in Foreign Bonds," *Fortune*, 24 September 1979, p. 142.

by the defaulting party. By using this mechanism, less creditworthy LDC borrowers can pay less for fixed-rate debt than they would have if they had sought to gain access to the fixed-rate market directly.

Alternatively, developing countries could use insurance to attract swap partners. An LDC could pay a premium to an insurance company to insure its swap counterparty against the possibility of loss if it defaulted on its obligation. Both the LDC and the insurance company would have to default at the same time for the other party to be at risk. This innovation is cost-effective because the insurance cost relates to the magnitude of financial exposure to a swap at a given time; it also enables the developing country's swap counterparty to separate the evaluation and pricing of the credit from other financial aspects of the swap transaction.

Currency swaps also help reduce financing costs. For example, they allow LDCs to match the currency composition of their foreign debt with their export revenues, reducing exposure to exchange rate fluctuations. Further, swaps give developing countries access to a wider range of foreign currencies. Finally, they are protected from being crowded out of preferred markets. For example, an LDC could swap a higher-coupon U.S. dollar paper for a lower nominal coupon Swiss franc paper and thus lower its overall borrowing costs without saturating the preferred Swiss franc market.

Another innovation that would reduce the costs of financing development through bond issues is the use of debt-equity warrants on LDC bonds. These warrants give an investor the right to purchase a share of the debtor company at a certain time and for a specified price. They lower the cost of borrowing precisely because of this provision. Moreover, new bond issues can be made even less costly by attaching warrants to them allowing the purchase of equity at a discount through the secondary market for LDC debt.

The shared-equity bond can also be used to reduce the cost of issuing bonds. In a shared-equity obligation, lenders acquire an interest in a revenue-generating project such as a power plant. In return, the borrower receives below-market interest rates. From the lender's viewpoint, the project's potential would justify the lower rate.

Although designed primarily for private companies, shared-equity bonds could be adapted to non-revenue generating projects in two ways. On a swap basis, lenders could buy the bonds issued for a non-revenue generating project and in turn receive an interest in a state-owned enterprise or in a private organization.²⁴ Alternatively, dividends on shared-equity bonds could be linked to changes in the country's GNP or some other non-revenue variable.

Some authors have argued that project-linked shared-equity bonds would be unpopular with banks as the rate of return in the short run is lower than the market rate of interest. This might create cash flow difficulties for the banks, which normally borrow funds at the prevailing market rate. However, this problem could be avoided if shared-equity bonds were marketed to

24. Laurie Goodman, "Alternative Design for LDC Loans: Lessons from the U.S. Home Mortgage Market," *Bankers Magazine*, May-June, 1984, p. 71.

institutional investors who do not have to match the interest rates of their assets and liabilities.

CONCLUSIONS

The international bond markets have the potential to become an important source of development financing. The capital market innovations described here could help realize this potential by removing the barriers faced by developing country bond issuers and prospective investors. Insurance and lines of credit could circumvent restrictions on foreign asset holdings by institutional investors. Tax swaps and the continued emphasis on the Euromarket could prevent discriminatory tax treatment from inhibiting the sale of LDC bonds. The liquidity of LDC bonds could be enhanced through the expansion of the secondary market in discounted debt and the implementation of mutual funds. Transfer risk could be averted by using devices such as price-level indexed bonds and balloon repayments.

Innovations which diversify risk away from bond holders, such as LDC mutual funds or collateralized bonds, would also be needed. The cost of bond finance can be lowered through interest rate and currency swaps, bonds with equity warrants and shared-equity loans. In addition, the complexity of bond issuance could be reduced by floating bonds on the Euromarket and using commodity-linked or other easily tracked bonds. Given that investors can earn much higher returns on LDC bonds than they can on developed country bonds, and that developing countries are desperately short of new funds for development, implementation of these innovations could prove beneficial to both borrowers and lenders.

