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The Development Contribution of IFC Operations

Economics Department

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The Development Contribution of IFC Operations

Economics Department

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The International Finance Corporation (IFC), an affiliate of the World Bank, promotes the economic development of its member countries through investment in the private sector. It is the world's largest multilateral organization providing financial assistance directly in the form of loan and equity to private enterprises in developing countries.

To present the results of research with the least possible delay, the typescript of this paper has not been prepared in accordance with the procedures appropriate to formal printed texts, and the IFC and the World Bank accept no responsibility for errors. This is a study by the staff of the Economics Department of the IFC, and the judgements in it do not necessarily reflect the views of the Board of Directors or the governments they represent.

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Synopsis

Development is not only growth in output and incomes, but also change—new technologies, better management, improved financing techniques. The activities of the International Finance Corporation promote growth as well as support these changes. Therefore, this paper reports not only on growth effects measured by economic rates of return, but also on the process of transformation set in motion by IFC's activities.

Perhaps the most fundamental way in which the Corporation contributes to development is by investing only in projects that offer a satisfactory ex-ante economic rate of return (ERR). The Corporation does not invest in any enterprise whose financial feasibility depends on policy-induced distortions such as protection or subsidies. This paper presents the results of an analysis of 110 IFC projects for which comparable data are available. Drawn from Operations Evaluation Unit (OEU) studies and from project completion reports (PCRs), the sample is far from perfect because OEU studies have focused on problem sectors and PCRs do not capture the long-term performance of enterprises. Still, the results are revealing. Ex-post ERRs averaged 10 to 11 percent in real terms—well in excess of the real cost of the US dollar funds, which during the 1980s was around 5 percent.

Ex-post financial rates of returns (FRRs) were roughly similar, but it is worth noting that ex-post ERRs, on average, were equal to or higher than ex-post FRRs. This suggests that any assistance IFC projects may have received through subsidies or import protection was outweighed by the negative financial effects of taxes on inputs and outputs, price controls that lower prices of outputs, and overvalued exchange rates. These results support the notion that, for most projects, economic development contribution went hand in hand with the financial success of the enterprise rather than being in conflict with it.

The paper then focuses on the crucial process by which IFC translates potential benefits into reality. It is during the appraisal process that IFC uses its technical, financial, and managerial expertise to improve the viability of a project. Another important development contribution is the help that IFC provides companies in trouble; without financial viability there can be no development benefit. Further sections of the paper illustrate other important development contributions such as the achievement of externalities as well as IFC's role in helping governments to attain sectoral or broader policy objectives.

Lastly, the paper deals with noninvestment operations: technical assistance to capital markets, corporate restructuring, the Caribbean and African Development Facilities, and the Foreign Investment Advisory Service (now a joint service of IFC and the Multilateral Investment Guarantee Agency). Perhaps the most important IFC advance in recent years has been in creating a synergy between project finance and technical assistance. The combination of project finance and nonproject activities has contributed much to IFC's development impact and will probably be even more important in the future.

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I. IFC's Mandate

The International Finance Corporation was established over thirty years ago to promote the development of its (developing) member countries. That remains its only purpose. Its special mandate was and is to do this by assisting and promoting productive private sector activities. Consequently, the companies in which it invests must be financially sound. If they appear to be unprofitable then no private investors will undertake them, and if they are unprofitable in practice, they will also fail economically, wasting the resources invested in them and thus by no means promoting development. Moreover, the Corporation itself is intended to be self supporting, and this imposes a further requirement that its activities, as a whole, generate a positive income stream for its own account. Any highly risky activities or any not-for-profit services that it might choose to pursue to promote development must be balanced by some less risky and/or more profitable activities. But these profitability requirements—both on the companies in which IFC invests and on IFC's own operations as a whole—arise out of, and do not modify, its single basic objective of promoting development.

In practice, the Corporation's development mandate has been interpreted to mean much more than simply making investments that have positive payoffs in both the developmental and financial dimensions. IFC's Board and its management require that the Corporation not only participate in such useful activities, but also that it actively contribute something to their success that otherwise would be unavailable. The Articles of Agreement refer to "cases where sufficient private capital is not available on reasonable terms." Over time the concept has been expanded, and now the Corporation is expected to have some distinct and important role. For example, it might bring investors together who probably would not have come together otherwise. It might provide financing on reasonable terms if such financing was not available elsewhere. It might provide expert advice (usually on technical, financial, or economic aspects of the project design) or render technical assistance that its staff, with its special experience and expertise, is unusually well qualified to give. Whatever IFC's particular contribution, it must increase the likelihood that the activity will have a positive development impact compared with the situation that would be likely to prevail if IFC were not involved.

In pursuit of its development objectives, IFC has evolved from a purely project investment body to a diversified group that offers a range of advisory and management services as well. Project investments, nevertheless, remain IFC's dominant activity. At the end of 1988, IFC held investments in 449 firms in 79 countries, a significant increase over the 288 firms in the investment portfolio in FY80. This growth in the number of active investment projects reflects higher rates of project approvals, which increased from fifty-five in FY80 to ninety-five in FY88. In addition to its project investments, IFC seeks to promote development through its Capital Markets Department. Established in 1971, this department has become the focal point for World Bank/IFC capital markets activities.

The format of this paper is as follows. Part II examines the quantitative impacts of IFC's development contribution, focusing on the application of economic investment criteria, technical inputs made during the appraisal and design phase of projects in which IFC invests, and ex-post measures of economic and financial returns. In Part III, IFC's development contribution is assessed from the viewpoint of its nonquantifiable impacts, with particular attention given to the benefits arising from the Corporation's nonfinancial inputs and the externalities that have emerged from its projects. Part IV then discusses the Corporation's noninvestment activities, including technical assistance to capital markets, corporate restructuring, the Caribbean and African project development facilities, and the Foreign Investment Advisory Service. The main conclusions of the report are presented in Part V.

II. Quantitative Development Impacts

A. Application of Economic Investment Criteria

The most fundamental way in which the Corporation contributes to development is by investing only in projects that offer a satisfactory ex-ante economic rate of return (ERR). The ex-ante ERR measures the real value added that is expected to result from the investment activity; unless this exceeds the real cost of capital (plus a margin for risk), IFC will not pursue the project proposal. This criterion is consistent with the pursuit of higher real GDP for the economy as a whole, and it underscores real income growth as the centerpiece of IFC's development objective.

In applying the ERR criterion, IFC measures the inputs and outputs of a project according to their opportunity cost to the economy. This means that a traded good is valued at its c.i.f. import price or f.o.b. export price (depending on whether the good is importable or exportable) and not at an internal price that may be affected by price controls, import duties, export taxes, or subsidies. Nontraded goods (such as local transport or labor costs) are valued at their international equivalent prices using conversion factors to adjust for any distortions on account of regulation, taxes, and currency valuations. Furthermore, cost and revenue items are counted or not counted in the ERR calculation depending on whether they are actual costs to the country, rather than to the company involved in the project. For instance, domestic taxes on the company are not counted as costs in the ERR calculation, whereas the costs of constructing a road just to service the factory would be counted even if the company does not pay them. Projections of costs and returns are made on a constant price (i.e., net of inflation) basis so that the ERR figures cited by IFC are measured in real terms and should be evaluated against the real cost of funds.

Because most projects involve both foreign and domestic financing, IFC also calculates ERRs in terms of their GNP (rather than GDP) contribution and refers to this as "return to the domestic economy." Whereas the standard ERR considers the impact of all economic costs and benefits on the host-country economy, the GNP-based ERR considers only costs and benefits to host-country nationals. Costs and benefits accruing to foreigners are excluded. The return to the domestic economy may be higher or lower than the standard ERR. If it is lower, foreign participants in the project are getting higher returns than the host country; if this difference is significant and not justified by the circumstances, IFC staff try to restructure the project's financing to achieve an acceptable distribution of the returns. Annex 1 contains more details on how IFC estimates and uses ERRs.

In its early years, the Corporation had no systematic procedures for assessing or screening projects on the basis of economic impact. About 1970, however, IFC began to adopt the methods of economic cost-benefit analysis. Since that time it has used these methods to screen all projects in which it has invested. IFC's overall project screening process now results in the rejection of some two-thirds of all project inquiries that warrant serious consideration. While reasons for rejection vary, failure to satisfy economic criteria has been important.

The requirement that a project must have a satisfactory ERR means that the Corporation does not invest in any enterprise whose financial feasibility depends on some policy-induced distortions such as protection or subsidies. The Corporation may invest in projects where distortions make the expected financial return (FRR) different from the expected economic return, but in all cases the expected benefits must be satisfactory in both dimensions. The judgment whether a project offers satisfactory prospective returns depends upon the risks involved in the enterprise as well as the cost of capital.

In the real world, a project has little chance of delivering development benefits in the form of higher national income unless it can also deliver a profit to its sponsors. Private investment projects that fail financially also fail economically. Therefore, IFC must consider both the ERR and FRR in project selection and appraisal. Typically, the ERR and FRR on a given project differ to some extent, which is to be expected given the prevalence of protection, taxation, and regulatory distortions in many developing countries. However, analysis of a sample of 110 IFC projects shows that the ex-ante ERR and FRR values of these projects are usually relatively close (see Annex 2 for details). In more than two-thirds of the projects, the two rates of return were within 5 percentage points of one another. In only three projects were there high net positive distortions (i.e., FRR more than 10 percentage points higher than ERR), while in thirteen projects there were high negative net distortions (i.e., ERR more than 10 percentage points higher than FRR); see Table 2 of Annex 2.

Not only are the ERRs and FRRs usually similar, but in the sample of 110 projects, the ex-ante ERRs were on average higher than the expected FRRs. The average ex-ante ERR of the sample was 23 percent compared with 20 percent for the FRR, a result that is contrary to some common beliefs about protected or otherwise subsidized investment activities in developing countries. In fact, out of the total sample of 110 projects, the ex-ante FRR exceeded the ex-ante ERR in only 39 cases (35% of total sample), indicating a relatively low incidence of profit-enhancing distortions in the sample of projects. In 65 percent of the projects, taxes or levies on inputs, price controls that may raise prices of inputs and lower prices of outputs, and overvalued exchange rates combined to outweigh any assistance the projects may have received through subsidies or protection from imports. The data indicate that the projects selected by IFC are more often penalized than assisted by the prevailing government incentives.

In general, the distribution of benefits from IFC's projects tends to favor the host economy. Out of the sample of 110 projects, 72 had information available on the return to the domestic economy calculated at the ex-ante stage. Within this group of seventy-two projects, the average return to the domestic economy was 29 percent compared with an average project ERR of 22 percent. In only twelve out of the seventy-two projects was the return to the domestic economy lower than the total project ERR. As explained in Annex 1, this outcome reflects project arrangements (financing, managerial and technical fees, and royalties), which typically benefit the host country.

In sum, IFC seeks to achieve a positive development impact by investing only in those projects that ex-ante are assessed to be efficient in their utilization of resources and that do not depend on distortions for their financial viability. The project screening procedures performed by IFC assist the development process not only by directing scarce capital toward productive and profitable ends, but also by laying a foundation for the project appraisal inputs that follow. These inputs are discussed next.

B. Translation of Economic and Financial Analyses into Reality

It is one thing to carry out an ex-ante economic and financial analysis that suggests that an investment will have positive developmental effects; it is quite another to translate these benefits into reality. Unlike many purely commercial lenders and investment firms, IFC brings its wide technical and financial experience to bear to ensure that expected benefits are translated into practical business reality. This "hands-on" treatment is part of IFC's unique development function. In a high proportion of IFC investments, the Corporation makes a significant contribution to both financial and economic viability through the application of its in-house skills (business, engineering, and finance), particularly at the stage of project appraisal.

In the majority of the projects that it finances (and in some others that it appraises but does not finance), the Corporation promotes development by improving the structure of the proposed project during appraisal. Many, if not most, of the project proposals that come to IFC are deficient in either financial or technical aspects. The most common financial weakness is undercapitalization relative to the size of investment being planned. Unless corrected, this often can lead to cash flow shortages early in the life of the project and sometimes to complete project failure. Corporation staff seek to overcome these weaknesses during the appraisal stage by negotiating a better balance in the proposed equity/loan structure. This negotiation may involve a considerable redistribution of risks and rewards among the proposed investors and lenders. This type of financial restructuring has been found to be very important in reducing the risk of project failure once funds are committed and the project has commenced. On the technical side, IFC engineering staff frequently encounter proposals based on technologies that are neither cost effective nor technically efficient. In these cases, the Corporation makes a substantial effort to redesign the technology of the project and to provide advice on sourcing, installation, and initial operation of equipment as well. In technical as in financial inputs, this "hands-on" approach during the appraisal stage has led to an overall increase in the development impact of the Corporation's projects.

The transforming role that IFC plays in many of its projects is described further in Part III. By its nature, this type of contribution has payoffs that are difficult to quantify and may not always be apparent, but should not be underestimated. IFC spends an average of $300,000 per project appraisal (not including overheads), reflecting the staff time and effort that goes into making sure project money is well spent. On a number of occasions, the diligence of IFC at the appraisal stage has led to it being replaced as financier by lenders less concerned with economic impact.

Not every project succeeds as planned. Project failures and disappointments on occasion must be expected, particularly in view of the risks that IFC has been willing to take. However, in view of the resource costs and waste of effort associated with project failure, the Corporation makes every effort to ensure that all projects have as high a probability of success as possible once they are commenced. Where losses do occur, the Corporation works with the sponsor to minimize the damage or, if possible, rehabilitate the venture. Even so, loss provisions and capital write-offs (in recent years at the rate of two to three projects per year) have been and will continue to be part of IFC's portfolio experience.

The success rate that IFC has achieved as a result of its appraisal and restructuring efforts has also had development payoffs that go beyond the particular projects in question. Demonstration effects on other potential investors are important in any developing country, and just as successful projects have a positive influence on investors' perceptions, so, too, do project failures have a negative influence. IFC is conscious of the damage that poorly conceived and poorly implemented projects can do through negative demonstration effects, and it makes every effort to minimize this type of damage with its own projects through its appraisal activities. Further discussion of these indirect effects is included in Part III.

C. Quantitative Analysis of Investment Performance

The most important question, however, is what results have been achieved in practice. Ideally, one would like to know the economic rates of return actually achieved by all of IFC's projects but complete evidence is not available. Virtually the only source of ERR re-estimates after a project has been operating for a significant length of time are the sectoral studies by IFC's Operations Evaluation Unit (OEU) and by other IFC staff before that unit was created in 1984. OEU studies already completed cover cement, nonfuel minerals, agricultural processing and storage, agricultural production, and textiles.[1] These sources give ex-post rate of return estimates for fifty-seven projects. Details of the returns on these projects are given in Annex 2. Some of the sectors in OEU's sample were chosen for study because they were unusually problematic. Therefore, the sample should not be regarded as fully representative of the Corporation's overall portfolio.

The other source of information on re-estimated rates of return are project completion reports (PCRs).[2] These re-estimations are carried out at the end of the project investment phase, usually soon after the commencement of operations. Unlike the OEU re-estimates, the PCR calculations are often based on little or no project operating experience. They provide only an approximate indication of what the actual economic or financial net benefits will be, but they are better than the ex-ante appraisal estimates because they are more up-to-date. The PCR figures do have the advantage, however, of incorporating known construction or installation costs for the project, and they embody more up-to-date assessments of technical and market conditions than do the ex-ante reports. Since 1982, eighty-five PCRs have contained re-estimates of ERRs.[3] Of these, fifty-three projects were selected for analysis; the other thirty-two projects were either present in the OEU studies previously referred to or had incomplete information. These PCRs, together with the OEU reports, give a sample of 110 projects for which summary results are presented in Section 3 of Annex 2.

The main findings from the analysis of this sample of partially ex-post ERR data are as follows. As shown in Table 3 of Annex 2, the ex-post ERRs averaged 11 percent in the PCR group of projects and 10 percent in the OEU group. These average returns are in excess of the real cost of corporate funds, which averaged around 5 percent for US dollar funds in the 1980s (up from the 1 to 2

1. The OEU studies are available from the Economics Department of IFC, 1818 H Street, N.W., Washington, D.C. 20433.

2. PCRs have recently been replaced by investment assessment reports (IARs). These are subsumed under PCRs in this paper.

3. In 1988, it was decided that ERRs would be re-estimated in all project completion reports. While these will not be true ex-post ERRs, owing to the short time elapsed since project completion, they will provide more comprehensive data for judging the economic impact of IFC investments.

percent real cost that prevailed in the 1960s and 1970s).[4] In other words, the net economic impact of IFC's project investments appears to have been positive overall, even for this negatively biased sample of projects.

However, the group averages conceal a large degree of variation in economic returns from sector to sector (see Table 3, Annex 2). In both the PCR and OEU samples, projects involving agricultural production have performed poorly, generating ERRs of only 2 percent on average.

Agricultural processing projects, on the other hand, gave only adequate real returns (7 percent ERR) in the OEU sample compared with the more satisfactory returns (11 percent ERR) of the PCR sample. While all other sectors have performed satisfactorily (a positive return over the real cost of funds), the two samples gave different indicators of the strength of each sector's performance. Sample variations in the distribution of returns can also be seen in Table 4, Annex 2. As a more comprehensive set of ex-post estimates is assembled (from PCR and OEU sources), it is anticipated that variations in sectoral estimates due to small sample effects will be reduced, and a more representative gauge of IFC's investment performance will be available.

As noted earlier, a project's financial return is as much an ingredient of its development impact as its economic return: in fact, financial viability is a sine qua non for good economic performance. Based on the ex-post assessments reported in Table 3 of Annex 2, the real financial return on IFC's investments has varied between very good in the case of textiles, chemicals, and pulp and paper (PCR sample), to poor in the case of agricultural production (both samples) and agricultural processing (OEU sample). These sectoral results highlight the extent to which good economic returns and good financial returns go together in IFC's projects, which in turn reflects the low overall incidence of economic distortions in the projects themselves.

As in the case of the ex-ante estimates, ex-post ERRs in the sample were somewhat better, on average, than FRRs. In fact, ERRs were equal to or greater than ex-post FRRs in all sectors but one of the OEU sample and in half the sectors of the PCR sample. The reason for this is that the pattern of government interventions affecting the firms in which the Corporation invests (i.e., the net impacts of taxes, subsidies, tariffs, price controls, regulations, etc.) has on average a neutral to negative effect on cash flows. Rather than being assisted by distortions, a majority of the Corporation's client firms either receive little help or are being penalized. These findings confirm the analysis of ex-ante economic and financial returns in Part II, Section A, above. The results also show that the 110 IFC projects, on average, performed well financially relative to the cost of capital, and they did so without overall reliance on protection or subsidies. Business success appears to have been translated into positive development impacts.

Since financial performance and economic performance of IFC projects usually do not differ widely, further insight into the probable developmental impact of IFC's project finance can be obtained by examining the overall financial performance of the companies it assists.[5] IFC's investment portfolio grew rapidly during the 1980s, and by the end of January 1989, 460 investments were classified as "active." The majority of these investments have not operated long enough to yield firm information about their financial performance. Therefore, financial performance statistics were collected on all companies in IFC's active portfolio for which six or more years had elapsed since the last commitment date. Leaving out 18 cases for which complete information is not available, the list covers 136 firms; their performance is measured by the ratio of earnings to assets for the last full year (generally 1987) for which information is available (see Part 4, Annex 2).

The average return on assets (before taxes) for these 136 companies was 9.5 percent (nominal). For comparison, the average return on assets (before taxes) reported by developing-country affiliates of U.S. firms in 1986 was 8.6 percent (source: US Department of Commerce). This suggests that the companies in IFC's portfolio are at least on a financial par with purely commercial operations, and that IFC's pursuit of development objectives in its investments appears to have been a help, and not a hindrance, in the achievement of satisfactory financial returns.

To summarize this section, the economic and financial performance measures show that IFC's

4. The real cost of corporate funds was calculated as the difference between the US AAA ten-year corporate bond rate and the US GDP deflator. For purposes of comparison, the average real LIBOR rate on US dollar funds from 1980 to 1988 was 5.7 percent.

5. Obviously what is significant here is the performance of the companies, not the performance of IFC's assets.

investments, on average, appear to be achieving positive development impacts through their contributions to the GDP of the host country and the profitability of the companies concerned. The Corporation's ex-post ERRs are, on average, well in excess of the real cost of long-term corporate finance and exceed the average ex-post FRR as well. The financial returns in IFC companies that have been operating for some time also suggest satisfactory average performance.

III. Other Impacts of IFC Project Financing Activities

A. Classifying IFC's Development Contributions

The purpose of this part of the paper is to examine the nonquantifiable features of IFC's development contribution, highlighting in particular the Corporation's appraisal inputs (referred to briefly in Part II, Section B, above), the externalities that flow from its efforts, and the broader sectoral and policy development goals it has helped governments to achieve. The features of IFC's work examined here further illustrate the differences between the activities of the Corporation and those of other, strictly commercial, financial intermediaries.

The development contribution that IFC makes through its project finance activities extends beyond the benefits captured in ERR calculations. The return calculations reveal the results achieved by client companies, but they do not show how much IFC's intervention contributed to those results. IFC's appraisal and design work and technical assistance can transform a doubtful project into a successful operation or rescue a project that otherwise would have failed. ERR estimates also do not capture all the external benefits that may accrue to the country. These contributions are among the basic reasons for IFC's existence; as mentioned earlier, the Corporation was not created for, and is not content with, simply investing in sound enterprises.

Just as IFC's contributions to development are not fully reflected in statistics, they are not easily described by general statements. They have to be illustrated by particular examples. IFC is a development institution concerned primarily with reality at the micro level, and every investment IFC makes is treated as a special case. There is no standard IFC product. In a broad way the proper measure of IFC's contribution to development is the number of companies in member countries that owe their success in some degree to IFC; but the nature of IFC's contribution to their success differs in every case.

The following discussion is organized under four broad headings. First, the development contributions arising out of IFC's *technical and financial appraisal* skills are examined, with particular emphasis on the transformation in design and improvement in performance that IFC brings to its projects. Second, the *externalities* that have been identified in connection with IFC's projects are discussed, including instances where external impacts were planned for at the project design stage and instances where unforeseen external benefits emerged only after commencement of project operations. The third area is where IFC's work goes beyond the micro project level to contribute in a significant way to *sectoral development and broader government policy goals.* This includes IFC's role in guiding the development of sectors such as capital markets and in helping governments to implement policy objectives such as privatization and private sector investment growth. The final issue examined is the development contribution that IFC makes by *saying no* to projects that are unsound and that would waste money for the Corporation and for the country concerned.

The first three of these topics are not mutually exclusive. Many projects in IFC's portfolio illustrate success in more than one category of development impact. For the purposes of the discussion that follows, projects have been chosen on the basis of their principal impact category.

B. The Transforming Role of IFC's Technical and Financial Inputs

The most frequently cited and perhaps most important type of input by IFC is technical or financial advice on how to improve the performance of a project. This type of advice is given special mention in about 80 percent of the 110 projects sampled, and it is usual for this type of input to be made at the project appraisal stage. The second most frequent type of contribution is IFC's key role in mobilizing investors for a project. This important contribution—cited in about 50 percent of the sampled projects—highlights IFC's unique ability to play a bridging role between sponsors and other investors. A quarter of the projects involved formation of a new company that assists private-sector development by diversifying the corporate base. Mentioned less frequently, but nevertheless important, are projects that have positive demonstration effects on other investors, lead to introduction of new technology, or play a pathbreaking role by being the first investment in a sector. A number of projects would not have gone ahead without IFC assistance.

The contributions made by IFC to improve project viability are extremely diverse, as the following examples selected at random illustrate.

One project that required a high level of staff input, given its size, was a dairy processing plant in

Côte d'Ivoire for the production of concentrated and sterilized milk and other forms of milk products. Through its suggestions regarding plant equipment and the specifications of civil works, IFC significantly reduced the establishment costs of this project. The Corporation's technical expertise was essential since the local sponsor was relatively inexperienced in dairy industry technology.

Another example of technical advice leading to improved production efficiency was a textile plant in Zambia. IFC recommended wider looms that would increase production of wider—and more salable—fabric. At IFC's suggestion, the company also decided to introduce advanced weaving technology by purchasing forty shuttleless looms that lowered production costs and increased flexibility. If the project had proceeded as proposed by the sponsors, it would have been a high-cost producer of less salable cloth.

In India, a project for a sponge iron works looked promising on paper but had difficulty obtaining financing. The main concern of local lenders was that the project was a "green field" operation involving new technology. IFC was requested to review the technological merits of the operation. The Corporation undertook considerable research in assessing the technology proposal, including evaluation of existing plants in other countries. IFC suggested additional metallurgical testing and designed guarantee tests for plant performance that placed a greater burden of the risk on the technical partner. IFC also assisted in the negotiations between the Indian sponsor and the technical partner to obtain an appropriate agreement on consequential damages in the event of nonperformance. With these arrangements in place, the project became bankable.

In another project in the iron and steel sector, this time in Venezuela, the proposal was for refurbishing and privatizing a government-owned plant that had been shut down for several years. Foreign investors were to play a major role in the ownership of the new company and in the introduction of new technology. At the request of the local sponsors, IFC undertook a complete technical evaluation of the proposal, which led to the redesign of certain key elements of equipment and plant layout. Based on the assessment of technical risks in the project, IFC then designed production and performance guarantees to give appropriate protection to lenders. Design of these guarantees required a specialized combination of engineering and financial skills not commonly found in financial institutions.

Another major project that required IFC's technology and financial inputs at the appraisal stage was the corporate restructuring of a large Argentine company involved in the production of clothing and footwear. This unique project concept was aimed at turning the company's financial fortunes around by targeting all aspects of its operations in the production, marketing, and finance fields. IFC's main contribution during the appraisal stage was to advise on the simultaneous design of production and financial plans that were compatible with each other and that would be consistent with the overall requirements of Argentina's debt-equity conversion program. IFC also reviewed the company's plans for production at plants in different locations and was able to suggest modification in the proposed investment program to improve the production and the flow of materials among the company's plants. Both creditors and shareholders looked to IFC to play the honest broker role and welcomed its initiatives in structuring and coordinating the refinancing effort. IFC's financial contribution to the project consisted of both loan and equity funds.

One of the areas in which IFC has frequently contributed to improved project performance at the appraisal stage is in the design of management agreements. Particularly in the case of hotel projects (such as a recent example in Turkey), IFC has found it necessary on several occasions to design and structure management performance agreements that satisfy the interests of all partners. The objective is to define agreements that ensure that management's incentives relate to net revenues and that management fees and capital costs are competitive. IFC's accumulated experience in the design of these agreements, coupled with its unique ability to play the honest broker role, make this an important aspect of its ongoing development contribution.

Similar types of inputs have been made by IFC in virtually every project. On occasion, circumstances require the Corporation to undertake major involvement in project planning when problems are seen at the appraisal stage and in rescue operations when projects run into trouble. Further illustrations of this involvement are presented in some detail below. The first section shows how IFC has reconciled profitability and environmental objectives; the second deals with companies in need of rescue.

(i) Making Profits in a Cleaner Environment

IFC has devised methods for reducing industrial pollution while improving the efficiency and prof-

itability of manufacturing operations. In some cases IFC's insistence on meeting environmental standards has rendered its assistance unacceptable to the sponsors, but in other cases the Corporation has been able to help companies meet environmental as well as profitability goals.

In the case of an aluminum smelter in Yugoslavia, IFC was asked to help finance a modernization/expansion/pollution control project. This was vital to the future of the smelter works, which faced closure if the work was not undertaken. Not only was much of the existing technology and layout obsolete, but severe pollution from the old smelting works was becoming intolerable. Before approving any financing, IFC analyzed the company's technical, pollution control, and financial planning systems. This analysis led to recommendations for redesign of the project scope, which in the light of subsequent market weakness proved to be of considerable value in maintaining the company's viability. By mid-1988, equipment installation and upgrading had been completed, pollution problems were under control, and production and sales were at capacity levels.

Another example was a pulp and paper company in Argentina, which by the late 1970s had a plant that was undersized, out of date, and environmentally damaging as well. IFC was called in to assist in a redesign to allow expansion, modernization, and installation of pollution control mechanisms. Because of the extreme difficulty of obtaining long-term financing for any private company in Argentina at the time, IFC's financial participation was crucial to the realization of these objectives. IFC also provided valuable technical appraisal and financial planning inputs that were beyond the resources of the sponsor to provide. IFC was instrumental in introducing the company to international commercial banks, in the context of a bank syndication. In particular, IFC's assistance with the design and installation of pollution control systems enabled the company to become one of the first pulp and paper manufacturers in Argentina to undertake a comprehensive environmental control program.

(ii) Help for Companies in Trouble

During the 1980s there were many instances where temporary business problems in IFC's member countries resulted in closure of potentially viable and economically efficient enterprises because of the lack of timely and competent assistance. Short-term cash flow problems that lead to bankruptcy and closure can represent a substantial resource loss to developing countries, particularly when employment and linked impacts on other companies are considered. IFC's experience has shown that a long-term commitment to companies is often required to ensure success, and it is normal practice for the Corporation to continue to work with companies in the portfolio as long as there is something useful that can be done for them. Each year the Corporation successfully rehabilitates companies that for various reasons are unable to meet loan commitments; in FY88 fourteen firms (representing 27 percent of all IFC client companies with nonperforming loans) were restructured; in only two firms IFC's loan had to be written off.

The difficulties that call for continued IFC assistance may make the returns on the project as a whole rather low with IFC help, but without IFC assistance the returns would have been even lower; indeed, in many cases the company would have failed and resources would have been completely wasted. A typical example is a polyethylene project in Argentina that was one of four downstream users of the ethylene to be produced in a major petrochemicals complex. Because the other three plants were delayed due to their sponsors' financial difficulties, and because the ethylene could not be economically exported, the entire complex was in crisis. Without sufficient users for the ethylene, the cracker and the IFC-assisted company would be mothballed until other downstream plants could come along. The gas that would have been used to make the ethylene would continue to be flared, Argentina would continue to import petrochemicals, and the mothballing would be not only expensive but also a very embarrassing repeat of another mothballing of the cracker at an earlier stage of construction. All this in a country whose abundant natural gas, location, and market size give it clear potential cost advantages in petrochemicals.

IFC, its Argentine partner, and the sponsor of the cracker analyzed the options. They decided to replace one of the two planned production lines of the client with a much larger, barge-mounted plant that would use a recently developed technology. This technology looked promising but had not yet been proven in full-scale production. IFC, as the only partner with international experience in petrochemicals, devoted considerable staff time to on-site reviews of pilot plants and other relevant installations in the United States and Europe, to visits to Japan where the barge was being built, and to strengthening the financial structure of its Argentine partner so that it could play its role in completing the project. (This last was accom-

plished by a standby loan to the partner.) The work was completed essentially on time, permitting the start-up of the gas separation plant and the ethylene cracker. The companies have been successful financially and economically, and in time other downstream projects also emerged. Again, however, the profitability or rate of return estimates of the project do not reflect the avoidance of the negative returns that would probably have accrued without IFC assistance.

C. The External Benefits of IFC's Project Investments

A second category of benefits arising out of IFC's project investments are externalities. These externalities may be intended (as in the case of the pollution control measures referred to previously) or unforeseen at the time of project implementation. On occasion, external benefits have been significant. Externalities can take many forms. The company's success may lead to the creation of other good companies; it may increase the profitability of other enterprises; and it may provide trained personnel for other companies in the country. IFC's investments can generate many important external benefits, as the following examples show.

(i) External Benefits to Producers and Consumers

A milk treatment and packaging project in Pakistan produced significant external benefits to both producers and consumers. Pakistan once suffered from severe deficiencies in its system of milk collection, preservation, and distribution. Whereas urban areas had milk deficits, surplus milk in rural areas was either wasted or converted to lower value products. To meet nutritional needs of city dwellers, milk powder was imported at a cost of $35 million in 1978. The project overcame these problems by introducing sterilized milk technology to Pakistan. This allowed milk to be preserved, transported, and sold in "long-life" packs. The company established new economic links between the milk surplus (Punjab) and milk deficit (Sind) regions of Pakistan and provided a direct income boost to around 12,000 small dairy farming families. Other benefits from improved nutrition have been significant.

Developmental benefits through demonstration effects have been important in this project. The company itself is now diversifying to include production of premium-quality powdered milk and baby food (both of which were previously imported). Further, the project's success with the new technology has stimulated competition from eleven other milk suppliers, and the same technology has now been applied to fruit juice marketing, with subsequent benefits for fruit producers and consumers. None of these external benefits could have been anticipated, much less measured, at appraisal, and some of them took years to appear. Sound companies are indeed the engines of industrial development, and the creation of a company able to develop and seize new opportunities is, over time, even more significant than the success of the original project.

(ii) IFC Investments Lead to Creation of Other Good Companies

In some instances IFC investments have led to the creation of very similar companies; at other times the new firms have been suppliers or consumers. Some companies are within one country, while others spread among many countries. Quite a few of the companies are in the capital markets sector, from which the following two examples are chosen.

In 1982, the Government of the Republic of Korea asked IFC to assist in structuring and promoting a new closed-end mutual fund, to be sold to foreign portfolio investors and to invest in Korean companies. There was considerable skepticism on Wall Street about the idea. It was doubted whether the international investing community would be prepared to place its money in a market as young, as small, and as comparatively undeveloped as the Korean market. Also, the Korean Government was anxious to ensure that the institution did not become a vehicle for short-term, speculative funds. IFC structured the fund and was its co-lead manager and underwriter. In the event, the youth and size of the Korean market did not prove to be problems, and the Fund was a great success. Sixty million dollars were raised through a public offering in 1984, the shares began trading at a premium to the Fund's net asset value, and two years later a second successful offering of $40 million worth of shares was made.

Following the success of the Korea Fund, a number of similar funds have been established in other countries, bringing to them the benefits of foreign portfolio investment and a qualitative increase in the sophistication of their equity markets. Other publicly offered funds assisted by IFC include one in Malaysia, three in Thailand, and one in Brazil. (In Brazil, IFC did a lot of work setting up the fund and designing laws and regulations to permit such funds, but did not participate financially.) There have also been three privately placed funds in

which IFC was involved, the Equity Fund of Brazil and two funds that are not country specific—the Emerging Markets Growth Fund and the Emerging Markets Equity Fund. Together, these public and private funds have raised over $500 million in new foreign money for investment in developing-country stock markets, have contributed to the creation of some twenty similar funds that have raised over $1.3 billion, and have ended the isolation of developing-country markets from developed-country portfolio investors. This has been particularly important in light of the slowdown in private long-term capital flows to developing countries in the 1980s.

IFC has also played a prominent role in introducing equipment leasing to many developing countries. Well established in developed countries, leasing has a number of advantages over conventional bank finance as a form of asset financing. First, the collateral requirements are much less onerous, making it attractive to small- and medium-scale enterprises and especially useful in countries with financial systems unaccustomed to evaluating credit risks. Second, leasing works well even when the overall market is small, thus making it suitable for small economies where the market would not support a range of banking institutions. IFC has helped to create nineteen leasing companies in as many countries. Virtually all of these companies have been pioneer institutions, and IFC has been heavily involved in providing technical assistance in drawing up the necessary legal and regulatory framework. The success of IFC's leasing companies has led to competition; often several additional companies have appeared during the first few years of an IFC company's operation. IFC's pioneering initiatives have sparked growth of the leasing industry in Sri Lanka, Jordan, Peru, Pakistan, Tunisia, Bangladesh, India, and Turkey.

D. Assisting Sectoral Development and Broader Policy Goals

A third area of development contribution by IFC has involved investment activities with impacts well beyond the normally limited boundaries of a single project. In some cases IFC has contributed to the development of an entire sector, while in others the participation of IFC has helped governments to achieve broader policy goals related to private sector investment. Examples of this type of development contribution are given in the following case studies.

(i) Sectoral Impact

On the macro level in purely financial terms, IFC was always a small part of total capital flows to its developing member countries. But the development impact of IFC's project finance work is not always limited to individual projects. Continued IFC support has played a special role in the development of a whole sector in a particular country—for example, petrochemicals in Thailand and Brazil and capital markets in Korea.

Petrochemicals in Thailand. After natural gas was discovered in the Gulf of Thailand in the mid-1970s, the Thai Government received a number of proposals to develop its petrochemical industry. These reports were based on different assumptions and objectives, and therefore each arrived at fundamentally different conclusions and recommendations. Conscious of the problems (and lost opportunities) that other countries had encountered in their resource development projects, the Thai Government sought the assistance of IFC to help it plan and implement a development strategy for the gas fractions suitable for petrochemical production.

From the very beginning, IFC was actively involved in the design and evaluation of alternative development strategies. Working with the Petroleum Authority of Thailand (PTT), it developed an integrated economic model to determine the optimum size and configuration for the petrochemical complex under different sets of assumptions. A joint IFC/PTT report was produced and accepted by the Government of Thailand. This ultimately formed the basis for the development proposal for the complex, which was scheduled to be completed in 1989.

For its consulting work IFC received a fee, most of which was used to purchase shares in the development company that was established to implement the proposal. Subsequently, IFC helped finance the development of the upstream unit and some of the downstream companies in the first complex. The Corporation is currently undertaking a somewhat similar role in the development of a second petrochemical complex in Thailand.

Petrochemicals in Brazil. When IFC began its contribution to the development of the petrochemical industry in Brazil some twenty years ago, no significant modern petrochemicals sector existed in that country. In 1969 and 1970, IFC financed Brazil's first large-scale integrated petrochemical complex—four companies (a cracker and three downstream) in the state of Sao Paulo. Beyond this financing, the Corporation played a crucial role in

supporting development of what has since become a well-known model of such development. This model includes (a) the tripartite division of ownership among local private, local public, and foreign private shareholders, so that the public authority has an incentive to adopt policies supportive of the development of downstream companies, but private owners have a majority interest in these companies; (b) a pricing mechanism for inputs and outputs that permits efficient projects to earn a reasonable return but avoids exploitation of monopoly positions; (c) an open door to foreign technology with adequate returns to providers of the best up-to-date processes and incentive structures to ensure the technical partner's commitment to the success of the project; and (d) a sharing of common services in the complex that provides cost savings for all. The presence of IFC, its willingness to participate, and its assistance in negotiations helped to rally the necessary support for these concepts.

IFC engineering staff made important contributions to project management and technology aspects of this complex venture, the first time any major petrochemical plant was created in Brazil without the full control of a multinational. Among many other inputs, IFC first suggested and then helped develop the first use of a tar-like residue as a raw material to produce carbon black, a process that has since been replicated worldwide. On the financial side, IFC also mobilized equity investments from subsidiaries of two large money center banks in the United States.

After the success of the first complex, a second was constructed in Northeast Brazil during the 1970s. Financing was readily available, notably from an IDB line of credit, and IFC participated initially in only one company. Later, in a second round of developing downstream industries in the early and mid-1980s, financing had become very difficult to obtain in Brazil, and the Corporation assisted several more companies. When in the late 1970s the third complex was being set up, in the South, the World Bank financed the cracker and IFC participated in three downstream companies, mobilizing large loan participations from international commercial banks. The Corporation's continued and multifaceted support for the industry's development (which includes many additional actions not mentioned here) has resulted in a basic petrochemicals sector in Brazil that today is a successful, modern, efficient world-class industry.

Capital markets in Korea. In 1971, a dialogue between IFC and Korea resulted in the formation of Korea Investment Finance Corporation (KIFC), the first institution allowed to set its own interest rates for raising and relending short-term funds. The banking environment then was one of regulated commercial banking and deposit rates and a shortage of credit. Companies unable to obtain credit allocations from the banks were forced to borrow in the high cost "kerb" market. KIFC demonstrated the ability to mobilize working capital funds with low intermediation costs while offering both borrowers and providers of funds improved terms. Korea now has over thirty finance institutions similar to KIFC. This institution-building effort was repeated by IFC in 1977 for leasing in Korea, again in 1977 for securities margin finance, and in 1983 for venture capital. This track record of IFC institution-building investments, followed in each case by competing institutions established to provide similar services, illustrates a deepening of the domestic financial markets, an impact not amenable to economic rate of return calculations.

In retrospect, IFC contributed even more to the development of Korea's capital markets through the technical advice and support it gave the Korean Finance Ministry during the critical establishment and transitional phases than through the funds that it subsequently helped to marshal.[6] The Corporation's advice was particularly valuable during reform of the Korean securities market, when the Ministry had to overcome problems of both inexperience and opposition to reform. The eventual development of the Korean capital market clearly benefited from the managerial expertise and sound practices that IFC helped bring to bear during the crucial early stages.

(ii) Breaking Down Country Risk Barriers

Helping a member-country government to overcome perceptions of high-risk or other adverse conditions on the part of foreign investors has become an important part of the Corporation's project finance work. IFC seeks out and supports sound projects in countries that other investors regard as too risky. Such initiatives have been important in China, Eastern Europe, and in recent times in Latin America, where foreign capital is

6. This view was expressed strongly by Dr. D. W. Nan, the former Prime Minister of Korea, during an address to the Asian Development Bank in Manila, November 18-22, 1984.

scarce and where the demonstration effect of IFC participation may be significant.

IFC's investments in China, in conjunction with advisory services provided by FIAS, have helped to improve China's investment climate as well as other investors' perceptions of it. This is exemplified by an automobile project—IFC's first undertaking in China. IFC played a major role in finalizing the complex joint venture contract to the satisfaction of both the foreign investor and the local partner. Another example is Indonesia after the late 1960s, when foreign investors were extremely wary of dealing with the new government, which itself was inexperienced in dealing with foreign investors. IFC took the initiative by organizing a cement project that subsequently became the first publicly listed company in Indonesia. Other IFC initiatives taken in Indonesia about this time included the successful rehabilitation of a major hotel project; promotion of technical and marketing arrangements with foreign textile firms; and efforts to provide a stimulus to oil palm plantations through reform of government regulations.

A more recent example is the establishment in 1987 of a joint venture in Hungary to produce synthetic lysine, a feed supplement for pigs and poultry. The project marked an important opportunity to introduce a new technology into Hungary through the participation of the foreign partner, who was not prepared to enter any joint venture in the country without IFC's participation. The project was IFC's first industrial sector project in Hungary and was the result of requests by the Hungarian authorities for IFC to encourage foreign investment. This project represents one part of the reform process that the Hungarian economy is undergoing to introduce commercial discipline to business enterprises.

IFC's actions to overcome country risk and confidence problems are not limited to countries newly open to foreign investment. The Corporation has recently financed many worthwhile projects in Latin America for which satisfactory financing could not be obtained elsewhere because of lenders' withdrawal. A typical example is a cement company in Mexico, where IFC's assistance began with financing an expansion in the 1970s. In the early 1980s, another expansion, in which IFC's participation had not been needed, was stalled in the midst of implementation when foreign commercial banks suspended disbursements shortly after August 1982. IFC moved into this situation, working with the company and its bankers to design and implement a new syndicated foreign financing in which the banks' funding was channeled through IFC. The Corporation also provided the additional equity needed to balance the company's financial structure, agreeing to future sale of such equity to Mexican investors so as to preserve the necessary balance between domestic and foreign ownership. This not only permitted the planned expansion to proceed, but it also led to some renewal of foreign financing in similar situations in Mexico and elsewhere in Latin America.

Much of IFC's recent syndications of project financing (some $200 to $300 million per year) has been in countries where commercial banks have been unwilling to make voluntary new loans except under the Corporation's "umbrella." These countries include Argentina, Chile, Mexico, Philippines, Uruguay, Venezuela, and Yugoslavia.

(iii) Assisting Privatization

Another way the Corporation responds to the needs of member-country governments is by helping them privatize public companies. Some governments have recently decided to transfer selected publicly owned and controlled production and marketing activities to private companies. This process has turned out to be fraught with multiple difficulties, and in many cases the problems have been beyond IFC's capacity to help. In a few cases involving investor confidence, however, the Corporation has been able to play a role. These are instances where the basic business aspects make good financial and economic sense, but private investors (local or foreign) are held back by adverse circumstances in the country, or by fear of renationalization by a new government with different views.

One example is a forestry, timber, and plywood operation in Liberia that had operated profitably in private hands during the 1970s, but went bankrupt after a takeover by the Government in 1980. When, after a few years, the results of nationalization became evident, the Government was eager to reprivatize the company but no investors could be found. This was a problem with many companies in Liberia at the time, and at the World Bank's request IFC agreed to try to help.

In this process, IFC was approached with a proposal that would help a private company take over and rehabilitate the forestry, timber, and plywood operation. The proposal had sound technical and marketing aspects, but entailed a number of risks to investors. IFC was able to help negotiate appropriate security arrangements, and the facilities were successfully privatized. IFC's participation

was important not only to the private investor, but also to the Government of Liberia, which gained confidence that the deal was fair. Aside from the fiscal benefits to the Government, getting the company operating again increased badly needed export revenues, generated employment for about 700 workers, reopened hospital facilities operated by the company, and raised the standard of living throughout the locality.

E. Saying No

Although it may seem paradoxical, the Corporation has also promoted development by refusing to finance bad projects. These projects, for want of IFC's participation or from IFC's demonstration of their weaknesses, are then dropped by the sponsors. Of all the investment inquiries IFC receives that warrant serious consideration each year, it proceeds, on average, with only one-third. In effect, the Corporation says "no" two-thirds of the time. Of course, not all of

IFC's dropped projects are halted completely (some end up being financed by other institutions), and not all of those that are dropped are economically unworthy. IFC's refusal to participate may be based on commercial risks. However, IFC's diligence in project screening and appraisal has a benefit far beyond the companies and projects that appear on the Corporation's books.

There are cases where IFC's negative judgment on project viability has influenced the structure of important sectors of industry in individual countries. In one instance, IFC was asked to consider financing a large polyester fiber plant—the first in the country and, given the expected level of demand, likely to be the only producer in the medium term. IFC's review indicated that the project had no real comparative advantage; technology, capital equipment, and raw materials would have to be imported, and expatriate management would be required. The project was capital and technology intensive, and no benefits would accrue from the relatively low level of wages in the country. The project's viability was based solely on protection in the domestic market resulting from the country's import tariff structure. Moreover, implementation of the proposed project might have adversely affected the cost structure of a competitive and growing textile and garment industry in the country. IFC's decision not to finance the project caused the other bilateral agencies, which were potential financiers, to withdraw, effectively halting the project.

In another case, IFC affected the development of the petrochemical sector in a country by saying "no" to a downstream petrochemical project, which would have been the first, and possibly the only, domestic producer in the medium term. While there appeared to be adequate domestic demand to sustain an economic-sized unit of the kind proposed, the plant would have depended on imported intermediate feedstock for the duration of its economic life. Internationally, the industry is essentially integrated back to the feedstock stage, and IFC had serious reservations about the availability and pricing of such feedstock on the market for extended periods of time. The nonavailability (or extremely high prices) of feedstock would have had major negative implications for the project's economic viability in the long run and for the development of downstream user industries. The sponsor was not willing to accept IFC's recommendations on the need for long-term supply arrangements for the feedstock, and hence IFC did not proceed with the project. Ongoing developments in the industry confirm that IFC's caution was justified. At this point, the project has not been able to proceed without IFC.

A further case involved a proposal to produce, rather than import, extruded aluminum shapes to be used in door frames, windows, and other parts of modern buildings. The extrusion requires a press, and to produce a satisfactory range and variety of shapes a certain size press is needed. IFC concluded that to produce more than just a few small shapes, the size of press required (and indeed proposed by the sponsor) would yield a capacity more than three times current consumption in the country. Production costs would be considerably higher than imports, but the sponsors were unconcerned about this problem since they expected not only tariff protection against competing imports but indeed the banning of imports of extruded aluminum by anyone else. Although the proposal appeared satisfactory from the financial side (there was then a construction boom in the country), IFC declined to participate because of the adverse development impact, and the project was never implemented. Of course, there is no ERR or FRR on IFC's books that measures this benefit.

IV. IFC's Noninvestment Operations

To meet the development needs of its members, IFC is providing an increasing number of services other than project finance. The oldest of these is technical assistance on capital markets and financial sector development. Newer initiatives include the Caribbean Project Development Facility (CPDF), the African Project Development Facility (APDF), the Foreign Investment Advisory Service (FIAS), and technical assistance on corporate financial restructuring and privatization, which has been growing for the past several years and for which the Corporate Financial Services Unit has just been formed. (The Africa Enterprise Fund, several different kinds of activity under the Technical Assistance Trust Funds, and the Technology Service Unit are even newer activities and therefore are not discussed here.)

A. Technical Assistance to Capital Markets

While most other IFC project finance primarily affects one productive enterprise, work in capital markets and financial institutions promotes, creates, or strengthens companies that serve a large number of other productive, private sector firms. Thus, not only the technical assistance but also the project finance in this sector have development impacts throughout the economy. The Corporation's efforts in this field improve business access to finance: they increase savers' access to a greater range of savings opportunities and thus increase the supply of funds; they improve the allocation of scarce funds among alternative uses; and they allow banks, borrowers, and intermediaries the opportunity to balance their portfolios in line with their risk preferences and the flow of their receipts and disbursements over time. In sum, IFC's efforts in capital markets can increase the efficiency of the entire financial system.

Apart from project finance and policy advice directly related to it, IFC's Capital Markets Department also provides free-standing technical assistance. Slightly less than half of all this activity is done in collaboration with the World Bank, a collaboration which is growing, especially in Africa. In the past three years alone, IFC has contributed to twenty-six Bank studies of the financial sector.

The range of technical assistance that the Corporation provides directly to developing countries is extremely wide, covering virtually all aspects of regulation of financial and securities markets as well as international financial flows. Since 1971, the Capital Markets Department has studied and advised on financial systems in twenty-eight countries, securities markets in forty-three countries, regulatory systems in twenty-eight countries, accounting systems in nine countries, tax policies in twenty-two countries, and ways to increase access to international capital markets in fourteen countries.

Technical assistance rendered to capital and financial markets falls into one of two categories: (1) broad, open-ended assignments that review capital markets in whole or in significant part, identify problems, and recommend improvements and (2) more focused and detailed assignments, where the government has a specific aim (such as establishing a leasing industry or improving clearing mechanisms in a stock exchange) and calls on IFC for specific policy guidance to help it meet this aim.

Work in the second, more specific category may be more likely to succeed than in the first because the host government typically has already decided to do something before it asks IFC for advice on how to do it. Nevertheless, the more general work is often productive and helps define the specific steps that would be appropriate in a particular country at a particular time.

In Kenya, for example, IFC has been closely involved with efforts to develop the money and capital markets. A financial markets study was conducted jointly by IFC and the Central Bank in 1984, and after some delays the Government of Kenya recently initiated the establishment of a Capital Market Development Authority to implement the recommendations.

In Pakistan, IFC staff participated in a World Bank-led financial-sector review mission and prepared a report on the country's capital markets. A number of the recommendations made to stimulate the stock market have since been adopted. IFC also provided a detailed review of the procedures of the Karachi Stock Exchange with a view to upgrading the trading, clearing, and market information systems, and it advised on regulations needed to facilitate the establishment and operations of private investment banks in an environment dominated by nationalized banks. The recommendations were accepted and incorporated into regulations for private investment banks issued by the Government. Having helped to lay the groundwork for this new set of institutions, IFC is now helping to create and finance a new investment bank.

B. Corporate Restructuring

In the wake of the sovereign debt crisis that began in 1982, the economic and financial problems of many countries, and unprecedented instability in exchange rates, interest rates, and commodity prices, have left many private sector companies in developing countries overburdened with debt. Heavy debt limits the money available for maintenance of plant and equipment, restricts new investment, and makes it difficult for the company to respond to new business opportunities. These effects are compounded by structural reform policies, such as the opening up of the economy (outward orientation), which alter the economic environment in which firms must operate.

The widespread nature of these problems led IFC to expand its assistance from companies already in its portfolio (mentioned earlier in this report) to other worthwhile private sector enterprises. The restructuring activity is supported by charging fees. The thrust of IFC's restructuring efforts is to identify companies or corporate groups where the core business is fundamentally sound, but where the debt burden is the main factor that inhibits the development of the business. A package can then be put together that restructures the company financially, and often the physical operations as well, thus reducing the debt burden, mobilizing debt and equity financing, and injecting new money into the core business. IFC's financial and industry expertise, coupled with its credibility as a multilateral development institution engaged in private corporate finance, render it uniquely well placed to offer this kind of service as well as to act as the "neutral party" and "honest broker" in necessarily difficult and complex negotiations. Its project-finance experience allows it to assess a company's prospects and help devise operational and technology improvements as well as the appropriate capital structure to revitalize the company. At the same time, IFC's expertise at the negotiation table, its market orientation, and its reputation in world capital markets allow it to retain the confidence of the creditor banks. IFC's ability to put its own resources into restructuring increases confidence in the soundness of the restructuring proposal and helps mobilize financing to fill critical gaps in the firm's revised capital structure.

IFC has participated financially in forty-eight restructurings, provided technical assistance to another fourteen companies, and given informal advice to many others. About one-half of these companies have been in Latin America and most of the rest in Africa and Asia. The mechanisms of these restructurings are complex and their details vary, but the recent example of Grupo Visa in Mexico illustrates the important points.

Visa is an integrated consumer products company mainly involved in brewing, soft drinks, and mineral waters with supporting manufacturing (cans, bottles, plastic packaging, etc.) and distribution activities. In addition, Visa had extensive holdings in convenience stores, food processing, automotive components, hotels, and bio-industries and employed more than 40,000 workers throughout Mexico. The group's rapid expansion and diversification, achieved during Mexico's oil boom and financed mainly with foreign borrowings, left it in serious financial difficulties after 1982, and it ceased to service its debts in late 1986. Although its debt was trading in the secondary market for as little as 30 cents on the dollar, many of the group's businesses continued to make well-regarded products and were operationally profitable. The restructuring devised by IFC resulted in a net reduction of $1.3 billion in Visa's total debt of $1.7 billion, including $1.1 billion of foreign debt. The net reduction was achieved by selling some noncore businesses (including a hotel chain and an automotive parts factory), buying back some of the outstanding debt at a substantial discount, debt-to-equity swaps, issuance of bonds in the local capital market, new equity raised through private placement and a local public offering, and rescheduling of some of the original debt. Importantly, the restructuring allowed the creditors to choose from a clearly defined range of options that balanced risk and reward and allowed the market place to determine the pricing of the main features of the restructuring.

C. Caribbean Project Development Facility (CPDF) and Africa Project Development Facility (APDF)

The Caribbean Project Development Facility was established in 1981 under the auspices of UNDP, with IFC as the executing agency. Its aim is to help small- and medium-sized enterprises, substantially owned by Caribbean citizens, to raise funds for new investments. It does not provide funding itself; rather it assists in the preparation of market and prefeasibility studies and of other documents that financial institutions require in evaluating proposals.

Since its inception, the Facility has worked with project sponsors in twenty-one Caribbean coun-

tries and territories, evaluating their projects and, where appropriate, helping them to raise loan and equity funds for those projects. CPDF's efforts have resulted in the financing of forty-five projects involving total investments of almost $100 million and generating employment for about 3,300 people in the region. These projects have been widely spread across agriculture, agro-processing, manufacturing, and tourism sectors and have been located in fifteen countries. CPDF emphasizes small- and medium-sized projects that play an especially important role in those smaller economies. Of the forty-five projects that have been funded, thirty-one were of a total size of $2 million or less.

The Africa Project Development Facility is designed to provide to African entrepreneurs the services that CPDF provides in the Caribbean. It is cosponsored by IFC, UNDP, the African Development Bank, and seventeen countries. Its offices (located in Abidjan and Nairobi) opened in November 1986. APDF has received over 1,000 requests for assistance from local entrepreneurs. Of these, seventy project proposals have been prepared and submitted to possible donors, and approximately one hundred more are being prepared with the assistance of APDF staff. Thirty have secured funding (two in the first year and twenty-eight in the second). The total cost of these projects was $47 million (an average $1.6 million per project), of which $32 million was secured by APDF ($3.4 million in equity and $28.6 million in loans). These projects will create 2,300 jobs in thirteen countries and will produce foreign exchange savings (or earnings) of $22.3 million.

None of these projects has had a long enough life to be evaluated, but the beneficial impact of APDF's activities goes beyond the number of projects implemented. Substantial consulting resources have been committed by APDF to help develop projects, and the capabilities of local consultants are being improved by their contact with APDF. The facility also helps to redesign projects if initial study indicates this is appropriate; for example, a flower export project in Nigeria was designed to grow anthuriums for the North American market, but APDF advised the sponsor that the European market for roses represented a better opportunity. A revised business plan was compiled, tests are under way, and full implementation is scheduled for 1989.

D. Foreign Investment Advisory Service (FIAS)

Begun in 1986 and recently structured as a joint service of IFC and the Multilateral Investment Guarantee Agency, FIAS gives technical assistance to governments of developing member countries, and conducts research on how to attract more foreign direct investment and how to utilize it more effectively. Its work is similar to the free-standing technical assistance given by the Capital Markets Department in that, unlike other IFC activities, its advice is given to government agencies or officials and concerns improvements in laws, regulations, institutions, and practices relevant to a particular aspect of the government's development objectives.

FIAS's work has expanded rapidly as many countries have shifted their views on the usefulness of foreign investment and are seeking help in attracting more of it. In its first two years of operation, FIAS advised fifteen different countries on promotion and regulation of foreign investment. In six of those countries, FIAS did at least one repeat project. FIAS often begins by diagnosing the investment climate and identifying specific aspects where change would be most productive. More focused work then follows. In China, where FIAS's formal work began, the first activity was a seminar in which the practices of other countries, and foreign investors' views of China, were analyzed and discussed. Attended by about 100 officials from all over China, the seminar was especially valuable because Chinese officials have relatively little experience with foreign investors. A second project focused on a law to regulate one of the six forms of foreign investment permitted in China. A third project concerned ways to reduce problems for foreign joint ventures caused by China's attempts to make virtually every one of them self-sufficient in foreign exchange—a policy previously identified as the biggest single inhibitor of investments in high-technology activities, which the Chinese very much want to attract. During this time, a FIAS staff member took part in a major World Bank mission to China and wrote the part of the report on foreign investment.

The advisory services of FIAS, like those of the Capital Markets Department, are given only in response to the request of a government. In seven of the eleven countries in which advisory projects have been completed, the recommendations of FIAS were followed. In China, the Government is implementing the key recommendation to strengthen and integrate nationally a secondary market for foreign exchange, so that until such time as the currency is made convertible, foreign joint ventures will not have to depend on government allocations of foreign exchange (which have often been very difficult to obtain), but rather can

buy it at its market value. In Thailand, the Government implemented FIAS advice to rationalize incentives by designing a small number of incentive packages, each tailored to a particular objective (e.g., development of poor regions of the country).

V. Conclusions

Project finance: measurable results. The development impact of IFC's investments has been positive, according to the available quantative data. Two samples of IFC projects for which ex-post economic rates of return were available had average economic returns of 10 percent and 11 percent in real terms. (One of these samples was from sector studies that focused on some problem sectors and therefore has worse results than IFC's investments as a whole.) These returns are well in excess of the real cost of corporate funds in the United States, which has been around 5 percent during the 1980s. Financial profitability of companies assisted by the Corporation, which is a sine qua non of development impact, has also been satisfactory, although some sectoral investments (agricultural production in particular) have not performed as well as others. Given the troubled state of the economies of many of IFC's developing members, these results can be considered good.

Project finance: beyond measurable results. IFC's project finance activities produce many important development impacts that are not fully reflected in the rates of return. Some of these benefits are not captured in profitability or ERR estimates because they do not accrue to the company, are difficult to quantify, or are not apparent for some time. Others are partially reflected in the numbers, but are the kind of IFC contribution that has transformed a negative return into an acceptable but not spectacularly positive one, or a nonbankable idea into a bankable project. Improving a project's proposed financial or technical structure during appraisal and sticking with a company and continuing to assist it through hard times are examples of the latter; both are routine for IFC, done in many, many cases. They are a major part of the Corporation's contribution to development, but seldom produce impressive profitability figures or other quantitative indices of development impact.

Policy and technical assistance. The growing kinds of assistance other than project finance are even more difficult to evaluate in a rigorous way. With policy advice to governments, such as that furnished by the Capital Markets Department and by FIAS, failures are usually evident, while successes are seldom provable. Leverage is high in such activities, however; one successful advisory project can produce improvements that induce numerous investments that would not otherwise have taken place. The African and Caribbean project development facilities are more labor intensive, but they are clearly excellent ways to help incipient entrepreneurs start small businesses in many small economies. Corporate restructuring is even more labor intensive, requiring considerable time by senior investment officers in complex and difficult work. While it is too soon to be sure of the long-term results, the work is obviously something badly needed in many developing member countries.

A developing synergy. Perhaps the most important IFC advance in recent years has been in creating a synergy between project finance and technical assistance. Project finance has important developmental benefits. It continues to be, and should be, the backbone of IFC's work. But even after full efforts to maximize catalytic effects, project finance is still somewhat limited in impact. The other activities meet different needs, and in some cases have potentially greater effects. But without project financing, the Corporation would have far less standing and far less expertise for these other efforts. The combination of project finance and nonproject activities has contributed much to IFC's development impact and will probably be even more important in the future.

Annex 1

Economic Rate of Return Analysis in IFC

The need for economic analysis arises in IFC because (a) distortions have been prevalent in many market prices in the developing countries, and (b) externalities or "hidden" economic costs and benefits sometimes result from investment projects. While the *financial* impact of a project on a company must be based on market prices, the *economic* impact of the project on the country must be based on opportunity costs, if they are different from market prices. Price distortions generally arise because of the effects of protection, subsidies, taxes, price controls, and other forms of state intervention in the marketplace. External costs arise, for example, when projects displace existing producers or require supportive state investments in infrastructure or pollution control. Sources of external benefits include the training of local employees and inventory or other savings accruing to downstream industries. Since business decisions are based on commercial signals that may not reflect the true value of a project to an economy, the possibility of conflicting conclusions arises when economic analysis is performed.

The mechanics of economic and financial analysis are broadly similar, and both start with the same set of pro forma financial projections for a project. Economic analysis goes beyond the financial projections to identify the opportunity or "shadow" prices for key outputs and inputs that reflect the economic impact of a project. For items that are tradeable, the main focus of the economist's search for shadow prices is the determination of the appropriate "border" or international prices (free of taxes and other charges imposed at the border). The appropriate border price has to reflect long-term supply and demand conditions so that project analysis is not biased by temporary price aberrations. For items not directly tradeable, and whose values cannot be assessed on the basis of components that are tradeable, emphasis in the analysis switches to the determination of the proper shadow exchange rates. With the latter, local currency costs and benefits can be converted to foreign currency equivalents.

The use of international prices for project analysis is based on the notion that these show opportunity costs or values from the country's viewpoint. Thus, an import-substituting project implies a "make or buy" decision for the country in which the true value of output is the alternative import price, and the cost of inputs is either their actual import cost (if directly or indirectly traded) or their alternative export value in the case of domestically supplied, exportable items.

The economic rate of return calculation can and should capture many of the external costs and benefits associated with projects. For example, additional infrastracture provided by the state solely for a project would be included as a cost in the economic analysis. On the other hand, if excess capacity is available in a nontradeable commodity (or in a tradeable bulky commodity that is difficult to transport), the marginal economic cost might be substantially lower than the financial price negotiated between buyers and sellers. If domestic production reduces inventory requirements for previously imported goods, the net economic working capital cost attributed to the project might be zero or even negative (i.e., a benefit accruing from the project). If substantial training costs are incurred, they might not be fully classified as economic costs if trained labor can be expected to remain in the economy even after leaving the particular project.

Forecasting future international prices of inputs and outputs is often the most difficult part of the analysis. IFC's wide experience helps in some cases. It permits reference to studies done for other projects and/or to costs in other projects that give an index of the proposed project's relative efficiency. In addition, the analyst needs to examine long-term price trends and margins, the international market situation, and factors determining comparative advantage in the industry (scale, location, and access to raw materials and energy).

Besides focusing on industry and sector costs and prices, economic analysis of projects also involves analysis of country factors and project-specific calculation of returns and other parameters. These include the basic economic policy framework of the country, trade and tariff policy, public enterprise pricing, exchange rate policy, and domestic price controls. Grasp of these policies enables preliminary decisions to be made as to where the main adjustments to the financial analysis will be required. Knowledge of the country's prevailing economic situation also provides the background for judgments on growth prospects (market), inflation (costs), balance-of-payments (foreign exchange availability), and the exchange rate (equity risks). Finally, the trends in policy, the

components of structural adjustment programs, and other expected changes are tracked so as to permit their accurate reflection in the basic projections.

IFC economists use readily available country and industry information from the World Bank and the International Monetary Fund, previous IFC project experience, and engineering knowledge of industry characteristics. However, where information is not available or is of unacceptable quality, additional analysis is necessary. Often macroeconomic information from the World Bank has to be adapted for use at the project level. Sometimes World Bank staff do not have up-to-date, or even any, information of some factors relevant to a particular IFC project, and in such cases IFC staff are required to develop basic parameters or projections themselves.

After the various country and industry parameters needed for the analysis are estimated, the quantitative indicators of economic viability—economic returns and returns to the domestic economy—are calculated. In most cases, this is the least time-consuming aspect of the exercise because a standard methodology is employed.

The standard ERR, as calculated by both Bank and IFC staff for proposed projects, considers the impact of all economic costs and benefits on the host-country economy. In economists' terms, it measures the effect of the project on the GDP of the country. Because many IFC projects involve both foreign and domestic financing, the Corporation also calculates a second ERR, which it calls "the return to the domestic economy." This calculation includes only costs and benefits to host-country nationals (individuals and business firms). Costs and benefits accruing to foreigners are excluded. This second ERR thus compares the returns that accrue to host-country owners of factors of production, to the costs incurred by host-country factors. It measures the impact of the project on the GNP of the host country. It can be higher or lower than the standard ERR. If it is lower, foreign participants in the project are getting higher returns than are local ones; if this difference is significant and not justified by the circumstances, IFC staff try to restructure the project arrangements (financing, management, and technical fees and royalties) to achieve a fairer distribution of the returns, failing which IFC may decide not to support the project.

Economic analysis of proposed investments has provided a number of other benefits to IFC's decision making in addition to its primary function of assessing the developmental impact of investments on host countries. The economic analysis, for example, serves as a barometer of the investment's underlying commercial viability. This is because shadow pricing reveals whether a project would be likely to survive when fully exposed to market forces—without government protection or subsidies.

Economic analysis of projects can also be used as a basis for dialogue with host governments about the effects and the desirability of changes in general or sectoral policies that affect the profitability of investments. There is a natural spillover effect into IFC's attempts to articulate its own investment strategy in particular countries.

Moreover, the country-specific experience to which staff economists are exposed enables them to provide a substantial input into IFC's growing array of free-standing technical assistance activities. For example, project economists have been useful to FIAS because of their understanding of how a particular country's policies affect the profitability of foreign investments. This kind of spillover should also be useful in the Corporation's new and growing work on privatization and on financial restructuring.

IFC has more practical experience in the economic evaluation of projects with foreign sponsors than practically any other development institution. Both directly as part of FIAS, and outside it, IFC is now being sought out to provide assistance and training in this field. In 1987, two Malaysian officials with responsibilities for foreign investment evaluation spent a week examining various aspects of IFC's approach to the problem—and its applicability in the Malaysian context. Two bilateral aid agencies, DEG (Germany) and IFU (Denmark), recently began carrying out economic evaluation of project proposals as part of their standard operating procedures. IFC advice was informally sought by both institutions, and as a result the Corporation organized a seminar in Copenhagen in April 1988.

Annex 2

Quantitative Estimates of IFC Investment Returns

Background to Data Sample

Whereas every project approved by IFC contains detailed ex-ante estimates of ERR and FRR, there is less than complete project coverage when it comes to estimation of ex-post returns. For this study, a sample of 110 projects was identified for which ex-post estimates of both economic and financial returns were available. The total sample of 110 projects was drawn from two sources: data on fifty-seven projects were obtained from sectoral studies undertaken by IFC's Operations Evaluation Unit (OEU), and data on fifty-three projects were obtained from project completion reports (PCRs). Further details of these data sources are given in Part II. For purposes of ex-ante return analysis, the total sample of 110 projects has been analyzed as a single group, as shown in Section 2 that follows. For purposes of ex-post return analysis, the data sample is split into OEU and PCR groupings to reflect the different measurement basis of the data sources. The ex-post results are discussed in Section 3.

To provide further insight into the *financial performance* of IFC's project investments, this Annex contains profitability data derived from the accounts of companies in which IFC has invested. These financial data are shown in Section 4.

Ex-Ante Returns on IFC Projects

Summary statistics on the ex-ante ERRs and FRRs for the total sample of 110 projects, grouped by sector, are shown in Table 1.

Table 1. Distribution of Real Ex-Ante Returns by Sector

Sector	No. of Projects	Ex-Ante ERR	Ex-Ante FRR
Agricultural Production	15	21%	20%
Agricultural Processing	19	24%	20%
Cement	20	27%	19%
Chemicals	5	22%	25%
Mining	13	28%	25%
Manufacturing	11	21%	21%
Pulp, Paper	4	17%	23%
Textiles	15	19%	19%
Tourism	6	19%	14%
Other	2	18%	17%
Group Average (unweighted)	110	23%	20%

Note: Data refer to 110 projects from combined OEU and PCR samples.

The frequency distribution of these projects, defined according to the difference between ex-ante ERR and ex-ante FRR, is shown in Table 2.

Table 2. Distribution of Projects by Difference Between Ex-Ante ERR and Ex-Ante FRR

ERR minus FRR (percentage points difference)	No. of Projects
Less than -10.0	3
-5.01 to -10.0	7
Zero to - 5.0	29
Zero to 5.0	47
5.01 to 10.0	11
Greater than 10.0	13
	110

Ex-Post Returns on IFC Projects

As outlined in Part II, an important difference between the OEU and PCR estimates of ex-post project returns is the amount of actual operation the project has experienced at the time the re-evaluation is made. Projects evaluated by OEU have more than two years' operational experience at the time that re-evaluation is made, while the PCR re-estimates reflect little or zero operational experience. Both the OEU and PCR re-estimations incorporate forecasts of costs and returns. Therefore, they are not "true" ex-post evaluations in the sense of being based on, say, fifteen or twenty years of operational data.

Summary statistics on the ex-post ERRs and FRRs taken from the OEU and PCR samples are shown in Tables 3 and 4.

Table 3. Distribution of Real Ex-Post Returns by Sector

	PCR Sample			OEU Sample		
Sector	No. of Projects	Ex-Post ERR	Ex-Post FRR	No. of Projects	Ex-Post ERR	Ex-Post FRR
Agricultural Production	2	2%	-3%	13	2%	3%
Agricultural Processing	6	11%	14%	14	7%	4%
Cement	11	11%	7%	9	20%	11%
Chemicals	4	15%	15%			
Mining	4	8%	11%	9	16%	13%
Manufacturing	1	18%	10%			
Pulp, Paper	4	14%	15%			
Textiles	3	17%	20%	12	10%	8%
Tourism	6	11%	9%			
Other	2	17%	16%			
Group Average	53	11%	11%	57	10%	7%

NOTE:PCR and OEU samples are not overlapping.

Table 4. Distribution of Real Ex-Post Returns as Percentage of Total Projects in Samples from Project Completion Reports and from the Operations Evaluation Unit.

Ex-Post ERR	Percentage of PCR Project Sample	Percentage of OEU Project Sample
Zero or negative	19%	33%
Positive and less than 10%	28%	21%
10% to 20%	36%	26%
Greater than 20%	17%	19%
	100%	100%

Earnings Performance of Mature IFC Investments

Data on the earnings performance of companies in which IFC has mature investments (i.e., where investment commitments were made in FY83 and earlier) were compiled from company records. Earnings are measured as EBIT (Earnings before Interest and Taxes) and as EBT (Earnings before Taxes), and they are expressed as a percentage of company assets. The EBT calculation is made to facilitate comparison with U.S. Department of Commerce data on earnings of U.S. company affiliates abroad. Earnings and asset valuations were available for 136 of the 154 mature investments currently on IFC's active portfolio. Data were recorded for the most recent year available, which for most companies was 1987. On average, the 136 firms earned a return of 11.7 percent (EBIT) and 9.5 percent (EBT). The distribution of returns are shown in Table 5.

Table 5. Distribution of Earning Ratios (%)

Earning Ratios (%)	No. of Companies EBIT	EBT
Zero or negative	13.2%	15.5%
Positive and less than 10%	39.7%	42.6%
10% to 20%	26.5%	25.7%
Greater than 20%	20.6%	16.2%
	100.0%	100.0%

Note: These data are preliminary and in many cases are derived from unaudited company accounts.

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