

INTRODUCTION

The International Finance Corporation (IFC), part of the World Bank Group, is in the business of reducing poverty and encouraging economic development in poorer countries through the private sector. IFC carries out this mandate primarily by investing in a wide variety of private projects in developing countries, always investing with other sponsors and financial institutions. These projects are selected first and foremost for their ability to contribute to economic growth and development.

Obviously, to contribute effectively to development in the long run, IFC's private sector projects must also be financially successful. Companies that are not financially viable clearly cannot contribute to development. IFC and its partners are, therefore, profit-seeking and take on the same risks as any private sector investor. Thus all IFC projects are screened not only for their likely contributions to development but also for the likelihood of their financial success.

This screening, as it happens, is not simple. Projects have complicated effects on an economy and, more generally, on society as a whole. Usually, for example, projects directly create productive employment and better jobs in the business being financed. But employment effects are spread much more widely, as increased business goes to suppliers or retailers and as new business is created elsewhere in the economy by employees spending their wages and salaries. There are many such effects, each difficult, if not impossible, to isolate from the investment. Because of these difficulties, most of these effects are not normally included in project analysis or decisionmaking but are nonetheless important in a development context.

Four years ago, IFC's Board requested that the Corporation investigate means by which some of these ancillary development effects might be examined more thoroughly. One response to this request has been case studies devoted to development outcomes of selected projects. The studies, undertaken by IFC's Economics Department, cover investments made at least five years before the research. The cases are not selected as a means of evaluating IFC operations. They are intended to broaden the notion of development impact and to understand better what factors should be used to assess development effectiveness. For example, the cases selected for inclusion in this volume describe employment effects, environmental improvements, technical transfers, the provision of infrastructural and other facilities, market development, training, and other effects. This group of cases is the third in an annual series.

One of the goals in the selection process is to reflect both geographic and industrial variety and to avoid close duplication in countries or sectors from one year to the next. In this third annual report, the five cases represent five countries and five industries:

- *Argentina*: Maxima is one of several private pension funds established after the government reformed the pension system in the early 1990s, allowing privately run funds to operate alongside the government's plan. Among the other advantages they will provide, private funds are expected to double retirement benefits and to do so with greater reliability, flexibility, and transparency.
- *India*: Titan Industries, Limited, started the first private wristwatch company in India to make quartz-based analog timepieces. It was competing with a well-established government-owned firm producing mechanical watches. Titan introduced new technology to India and used local designers for its products. It radically changed the way watches were marketed and successfully began exporting, all within a decade.
- *Pakistan*: Millat Tractors used IFC funds to establish a loan program for Millat's struggling suppliers. The program enabled suppliers in many cases to become world-class producers and to introduce new products, in the process making it possible for Millat to survive in a climate of declining protection of imports and confused government policy.

- *Philippines*: Hambrecht and Quist Asia Pacific (H&QAP) established the first professionally managed venture fund in the country. It subsequently set up two other funds, all partially financed by IFC. In total, nearly 60 such funds have been supported by IFC in the developing world. H&QAP began operations as the economy of the Philippines was slipping. But the company persisted and has now provided more than \$30 million¹ in equity capital to 36 companies, several of which have gone public.
- *Zimbabwe*: Interfresh, Limited, packages fresh fruits and vegetables for both domestic and export markets. IFC has financed two projects with Interfresh, the first involving increasing warehouse and cold storage facilities, the second funding construction of a dehydration plant. The company has grown rapidly, providing a vital link between farmers and consumers and fostering employment in an economy still plagued with high unemployment.

Each of these projects illustrates the good that can result from the presence of viable private sector companies in poor countries. Although IFC's preinvestment analysis has gone much further than that of most investors in trying to assess the developmental worth of its projects, many benefits are still excluded from traditional financial analysis. A compilation of these case studies over time may facilitate understanding of these benefits, allowing them to be taken into account in the consideration of new investments. Meanwhile, careful reviews of the type included here show how private sector activities in a developing country affect both poverty reduction and growth.

1. U.S. dollars unless otherwise specified.

2 INDIA: TITAN INDUSTRIES, LIMITED

Robert R. Miller

Under the best of circumstances, starting a new manufacturing business in a developing country presents an entrepreneur with a particularly daunting set of problems. Technical skills may be lacking to design products of appropriate quality and to establish manufacturing facilities that can employ and train local workers. Product markets, almost by definition, are likely to be primitive by Western standards. If the product is to be sold through retail distribution channels, for example, appropriate retail stores and the means to draw potential customers to them often are difficult to find. Suppliers of components often need to be developed and trained; one cannot simply assume they exist. At every step of the way, development of a new product in a poor country demands an unusual degree of persistence and imagination.

India offered an even more difficult business setting in 1985 when the Tata Group finally received permission from the Indian government to establish watchmaking facilities using foreign technology and imported parts. The very fact that permission from the central government was required testifies to India's business environment at that time. Many larger companies and groups, Tata included, initiated projects because new licenses were available rather than on the basis of any inherent business or organizational logic. Many sectors were dominated by state-owned enterprises, reflecting the government's belief that equitable economic progress required close government supervision, monitoring, and, in sectors deemed sufficiently important, ownership. Even India-based wristwatch manufacturing was done within a single, government-controlled company, Hindustan Machine Tools, Limited (HMT). In fact, the supply-side orientation of government planners is illustrated by their apparent belief that HMT was sufficient to service the Indian market and that a new company in the same industry would, therefore, represent a misallocation of national resources.

India's watch industry at the time enjoyed almost total protection from the importation of completed watches. The government achieved this goal not by using high tariffs but rather through what it hoped would be a complete embargo. The wholesale smuggling of completed watches and movements, particularly of products based on quartz technology, ultimately compromised this protection. But, at least at the beginning of Tata's planning, there was no need to be concerned about competing directly against such large international producers as Seiko,¹ Timex, or Citizen, all of which were well established in other parts of the world but not in India.

This was the mixed environment into which the Tata Group launched Titan Watches Limited.² No one in the new company could know with certainty whether quartz analog watches would find a market in India. Nor could they know if consumers would substitute Titan watches, incorporating a new technology for India, for the rugged, well-known, and respected HMT watches. And finally, there could be no assurance that quartz analog technology could even be manufactured in an Indian production environment, since knowledge of the technology was superficial at best in Titan's nascent management group. The risks were great, but so too were the potential opportunities.

IFC's Investments

IFC became involved with Titan at an early stage, when IFC's board in January 1987 approved a financing package to support establishment of a manufacturing facility. This plant, intended to produce about 2 million watches a year, was to be built in Tamil Nadu, about 45 kilometers southeast of Bangalore, where Titan's corporate headquarters were located. The financing consisted of a multicurrency loan of \$14 million³ and an equity investment of \$400,000 to purchase 2 percent of the company's shares. The planned cost of the factory was to be about

\$51 million. Other financing was to be provided through the public issuance of shares, through debentures, and through a partially convertible debt issue.

IFC followed this initial investment with another, approved in June 1988. This financing consisted of another multicurrency loan equivalent to \$6.5 million, intended partially to support the construction of a watchcase factory. This plant's planned capacity was to be 1.5 million cases annually. Third and fourth IFC investments, approved in 1989 and 1992, involved the exercise of preemptive rights to gain additional equity to finance projects related to expanding capacity, introducing new products, and adding the production of more components. All these programs are described in more detail in subsequent sections.

The equity structure for Titan as of 1996, after IFC's last disbursements, is shown in table 2.1. Share ownership of the company by the general public represented the largest single holding by this time, followed by the Industrial Development Corporation of Tamil Nadu and the Tata Group.⁴ These shareholder categories now account for nine-tenths of Titan's equity; Tata, a minority but significant shareholder, appoints the management team. Titan's management takes pride in being a part of the Tata family of companies, India's largest and best known, and when starting out used the Tata name to gain early recognition for Titan as a firm of high quality.

Table 2.1 Shareholders of Titan Industries, Limited, March 31, 1996

<i>Shareholder</i>	<i>Number of shares</i>	<i>Percent of total</i>
Tamil Nadu Industrial Developme Corp.	11,784,606	27.9
Tata group of companies	11,099,239	26.3
Unit Trust of India	2,302,196	5.4
IFC	890,750	2.1
Nonresident Indians	1,110,119	2.6
Foreign institutional investors	70,000	0.2
General public	15,019,360	35.5
Total	42,276,270	100.0

Titan's Early Growth Path

As a start-up company hoping to manufacture and sell technologically sophisticated products in India, Titan faced daunting problems. Engineering and manufacturing clearly were critical for eventual commercial success, but in the beginning no one in the company could know whether these technical abilities could be developed in a timely way. Product design, too, was important, for watches had to appeal to an Indian audience with unique tastes and preferences. Changing customers' habits of purchasing utilitarian watches to new buying modalities emphasizing style presented marketing challenges. Finally, workers with no experience in a factory setting had to be located, selected, and trained, all in a relatively short time. Success depended on all of these elements coming together; shortfalls in any of them could doom the new organization.

Manufacturing

Among the more serious problems facing Titan's management group was that no one in management really knew how to manufacture quartz analog watches. Clearly, a technical partner would be needed, not only to provide the technological know-how but also to supply the parts and components required to assemble completed watches. The technical partner would have to be willing to transfer knowledge with the expectation that Titan engineers would eventually learn to

manufacture watches on their own. Titan management made it clear in discussing licenses with prospective suppliers that it wanted to work toward technological independence.

Few suppliers were interested, so the search for a suitable technical partner was lengthy. Finally Titan reached an agreement with France Ebauche, a European manufacturer of quartz watches, to supply kits for assembly and to instruct Titan on the technology. With this backing, planning for actual production could proceed, and work began in mid-1986 on construction of an assembly plant. Production began in April 1987. One year later more than 350,000 watches had been assembled. Almost simultaneously, local production of components began, a plan intended to accelerate learning by Titan engineers and workers.

By the end of 1988, fully two years ahead of the original schedule, parts for all watch movements were being produced and assembled indigenously. By this time, the primary constraint on increasing production and sales was not Titan's ability to produce watch movements but the inability of East Asian suppliers of watchcases to maintain regular shipments. Erratic supplies motivated Titan to expand local production of cases under a technology-transfer arrangement with Citizen Watches of Japan. Despite such difficulties, production and sales continued to increase rapidly, expanding to 634,000 watches sold in the year ending in March 1989, and to almost 1.3 million the following year (see table 2.2).⁵ Sales consisted of at least 250 distinct types of watches, most designed locally. All in all, it was a much more seamless start-up of a difficult manufacturing operation than could possibly have been hoped.

Table 2.2 Early Titan Production and Sales
(thousands)

<i>Period</i>	<i>Modules manufactured</i>	<i>Watches produced</i>	<i>Watches sold</i>
Before March 1987	32	5	n.a.
April 1987– March 1988	373	353	267
April 1988– March 1989	739	615	634
April 1989– March 1990	2,062	1,355	1,278
April 1990– March 1991	2,260	1,950	1,800

n.a. Not applicable.

The simultaneous introduction of new production involving technological learning and adaptation and a major building program was a remarkable achievement for Titan's management. Even more surprising was the level of quality. By 1990, three years after beginning production with imported components, the average department was operating with only a 3 percent rejection rate, a figure that compared favorably with France Ebauche's own standard of 7 percent. This record was achieved with a work force comprising mostly locally recruited young people who had never before worked in a factory.

Sales and Marketing

Manufacturing is, of course, only a part of the early growth story. The quartz analog watch was an entirely new product for India in 1987. While established distribution channels existed for other watches, Titan intended not only to introduce Indian consumers to the new technology but to do so in a way that would radically change the way watches were marketed throughout the country. The idea was to combine five features: (1) a product of international quality; (2) Indian designs;

(3) competitive prices; (4) an intensive advertising and promotion campaign; and (5) specialized retail shops to control the presentation, since the general quality of watch merchandising in India was low. Service for the company's products had to be developed from scratch.

This ambitious marketing program was intended to position Titan watches as high-quality, fashionable timepieces, available in clean and comfortable surroundings, priced higher than other watches then on the market but not beyond the reach of millions of potential purchasers. It was not a program, therefore, that would place Titan watches in direct competition with, say, mechanical watches from HMT. The marketing program would introduce to India the type of promotional effort familiar in most developed countries. In order to be successful, however, all facets of the program had to come together: attractive designs, high-quality products, sufficient inventories, a logistical support system and, not least, a well-timed promotional campaign. Accomplishing these multiple tasks in a timely way was a monumental undertaking for a new, untested company.

Working in favor of Titan's program, of course, was the protection from foreign competition then afforded to Indian producers. There is little question that Titan's entry into the market would have been substantially more difficult, if not impossible, had such competitors as Citizen, Timex, or Seiko been there first. In this sense, Titan's entry can be seen as validation of an infant-industry approach to industrial development, since the protection gave Titan a chance to get started.⁶ A second part of that approach should be liberalization of the market and the reduction of protective barriers in order to guarantee efficiency. That liberalization is now occurring in India and has made it easier for foreign companies to enter. Several are anticipated, and it remains to be seen whether or not Titan can meet the coming test. One encouraging sign is that although smuggling of watches and movements has been rampant in recent years, Titan has more than held its own.⁷

Titan's first specialty shop for its watches opened in 1987 in Bangalore, the firm's headquarters city in South India. This shop was followed by others in major cities throughout India. By 1998 Titan watches were sold in thousands of stores, including more than 185 Titan showrooms, 102 of which were Titan's own exclusive stores. In addition, the company had opened nearly 400 service centers to repair watches, replace batteries, or change straps.

The success of Titan's marketing strategy can be gauged by its early sales figures, summarized in table 2.2. The difficulty in acquiring a dependable source for watch cases is apparent from the figures in 1989 and 1990, when more modules were manufactured than could be absorbed in watch production.⁸ Even higher sales, in fact, were constrained by the company's inability to acquire sufficient numbers of cases and by problems associated with trying to produce the 250 different types of watch styles. But the very rapid growth of sales is obvious from the table. The public's acceptance of Titan quality, styling, and prices was becoming clear.⁹

Subsequent Expansion and Innovation

Titan's success in developing a national market for watches became apparent early in the company's growth. It did not take long for the company's management to realize that this success might be repeated in related types of products. Moreover, if the company were eventually to compete with locally produced watches of foreign competitors, its name had to be positioned as a strong brand. Titan could continue to build its reputation in higher-end watches, leaving the much greater volume of cheaper, lower-margin watches to others, or it could become a supplier of watches across the entire price spectrum. If the latter option were selected, Titan clearly lacked a product at the lower end of the market.

Good arguments were available to support both sides of this question. Introducing lower priced watches, for example, ran the risk of undercutting the carefully established reputation of Titan as a manufacturer and marketer of very high quality, if more costly, timepieces. Were Titan watches purchased mostly because of excellent styling and fine quality, features that could appeal to the status motivations of wearers? Or did most buyers simply want a high-quality, durable watch

crafted in India? In other countries, strong brands had been hurt by the introduction of cheaper products carrying the same brand name.

The arguments on the other side were equally persuasive, however. If a manufacturer ceded the lower part of the market to others, potential customers might be introduced to the new quartz technologies through other brands. As these buyers moved to higher income levels, where more expensive watches might be considered, brand loyalty might encourage the original seller to entice buyers into higher-priced versions of the same brand. Most foreign sellers offered brands at all levels.

In Titan, such considerations led to a decision to form a joint venture with Timex, a United States–based company and one of the largest producers of quartz watches in the world. There were advantages on both sides. For Titan, teaming with Timex allowed entry into the lower-priced end of the market and an opportunity to learn more about technologies relevant to such watches. The pressure to achieve lower costs in this market required movements to be made from plastic parts and demanded high-volume production. Titan had no experience in manufacturing plastic movements. For Timex, a joint venture with Titan was a convenient way to enter the growing and potentially vast Indian market with a partner well established in India, while at the same time sharing capital costs.

The joint venture began late in 1990 with plans to construct a factory to produce about 3 million watches annually. Timex, with 29 percent of the equity in the joint venture, was to be responsible for technological inputs, while Titan (also with 29 percent) was to handle styling and marketing of the new line. By 1997, the joint venture was selling 1.5 million watches and was the second largest marketer of quartz analog watches, after Titan, in India. Together, Titan and the Timex joint venture sold about 5.5 million watches in India—70 percent of the locally manufactured watches of this type and 25 percent of the total watch market.¹⁰ The introduction of quartz analog watches had doubled market sales of watches manufactured in India. But smuggled watches and movements, most quartz digital, represented nearly half of the total market, a sign that the protection intended to keep out foreign producers was, to say the least, porous (see table 2.3).

Table 2.3 Watch Sales in India, 1997
(millions)

<i>Source</i>	<i>Number sold</i>	<i>Type of watch</i>
Hindustan Machine Tools	3.0	Mechanical
HMT	0.5	Quartz ^a
Titan Industries	4.0	Quartz
Timex/Titan	1.5	Quartz
Other legal producers	1.3	Mostly quartz
Smuggled watches or movements	10.0	Mostly quartz
Total	20.3	

a. HMT quartz watches are digital, not analog.
Source: Company estimates.

A second thrust of the company involved the introduction of other new but related product lines to be sold through the same distribution channels. Clocks were perhaps an obvious choice, and a line of plastic clocks was introduced in 1995, followed by a line of well-designed table clocks. These were produced mostly from components made by Titan, and they were sold under the Titan brand in company stores and elsewhere at attractive prices. Clocks, too, had an enthusiastic market reception, and by 1997 nearly 400,000 units had been manufactured and

sold. Consumers clearly were seeing the new clocks as a natural complement to the company's other products.

In still another initiative, Titan redoubled its effort to develop export markets and, later, to introduce new products intended specifically for potential customers in other parts of the world. First exports went primarily to Middle Eastern markets, but Titan also embarked on a major program in 1995 to introduce its watches in Western Europe, one of the world's most competitive markets. This decision committed the company to an expensive and highly uncertain product launch in a sophisticated market accustomed to the best of European, Japanese, and American offerings. Even so, by the following year Titan had sold more than 100,000 watches in Europe, compared with 280,000 in the Middle East.¹¹

Although first-year sales in Europe were obviously important, far more important was the recognition among retailers that Titan could be competitive with other brands. This recognition was indicated by the more than 1,600 European retail outlets that by mid-1997 had agreed to offer the Titan brand. The company followed this introduction with the opening of a new factory in India to produce watches specifically designed for a European clientele. Although it is too early to say whether or not Titan's European sales efforts will contribute significantly to profits over the longer run, results thus far are encouraging. They provide an indication that only 10 years into its history the company has already developed the design, manufacturing, financial, and marketing skills to begin competing in a global market.¹² Perhaps more important from a development point of view, Titan's aggressive approach to risk-taking, which has been well publicized in India, seems certain to be emulated by Indian companies more generally.

Titan made another bold step recently, one that may prove even more risky than the firm's export efforts. Almost simultaneously with the decision to market watches in Europe, Titan's management decided to start a new business in designing, manufacturing, and selling gold-based jewelry, including jewelry watches. Although there clearly were overlaps between jewelry and watches in design and manufacturing, Titan's normal marketing channels for watches were unsuitable for distributing designer-quality jewelry (except, perhaps, jewelry watches). Even in design and manufacturing, the overlaps were limited, because a large part of watch production is the assembly of dozens of intricate parts into a tiny mechanical/electronic piece of machinery. Millions of nearly identical movements were produced in a continuous process, some parts of which were eventually automated. Although jewelry manufacture also involved metal finishing and, for some pieces, small parts, production processes were much more individualized than in watch manufacture.

Moreover, Titan's management concluded that marketing jewelry required essentially separate distribution channels, including retail outlets dedicated to jewelry and closely controlled by Titan itself. Jewelry had traditionally been sold in India through small shops where customers often were offered items not meeting rigorous quality and material standards. Titan hoped to change that marketing system by offering jewelry mostly through exclusive, fashionable shops. Important purchasing considerations, such as an item's gold content or individual piece quality, were to be guaranteed by Titan, a company backed by the well-respected Tata group. Designs were to be done by well-recognized artisans, in addition to Titan's own design group. Through this strategy, the company's management hoped to revolutionize the jewelry market in India.

Clearly, these were ambitious goals for a small, if rapidly growing, company that had been in existence for only a few years. Even more than in watches, design and presentation were the key to success in the marketplace, but close coordination during start-up between design, engineering, manufacturing, and marketing was also vital. Stores needed to be sited and built at the same time that sufficient pieces for display were being designed, manufactured, and inventoried. Production began in 1994 in a specially built factory near Titan's watchmaking facility, partially financed by IFC's last investment.

Not everything went smoothly at first. Titan chose, for example, to use the international standard, 18-karat gold, in its original jewelry collection. But many Indian jewelry purchasers were accustomed to 22-karat gold, and while they generally liked Titan's designs, they balked at buying items of lower weight in gold. Responding to this demand, the company altered its strategy and introduced a line of 22-karat gold jewelry in addition to the 18-karat designs. This change, carried out in a short time, was immediately rewarded by positive customer reactions, and sales expanded very rapidly.

By 1998, only four years after beginning production, Titan had its new plant running smoothly and had opened more than 14 exclusive boutiques in 12 Indian cities. Annual sales exceeded 80,000 pieces. The company was well on its way to creating the first jewelry store chain in India and, as in watches, radically changing the way in which the Indian jewelry market operated. The next step, expanding both domestic and export sales, has already begun. More stores are being opened, and export markets are being targeted. In the company's fiscal 1998, for example, jewelry exports totaled 26,000 pieces in Europe and the Middle East, and plans are under way for additional markets in the future.

Titan's Development Contributions

One of IFC's major development contributions is assisting in the creation and growth of sustainable private enterprises in poorer countries around the world. IFC provided Titan Industries more than \$20 million in equity and loan financing in four separate investments between 1987 and 1993. This funding supported the original construction of Titan's factory, joint venture manufacturing with Timex, start-up production of jewelry, and a number of other initiatives. Most loans have been retired, but IFC remains a minor equity holder in the company. Thus IFC has been an important financial contributor to Titan's growth over the company's brief history.

Normally, IFC would be reluctant to support an enterprise doing business in a market not open to foreign competition, such as Titan in 1987. Protection often is synonymous with allocating resources to companies that are dependent on the continuation of protection to survive. Development contributions are contingent on the continuing viability of a company. Investments therefore need to be made in a manner consistent with efficiency and comparative advantage. Heavily protected industries usually do not receive IFC investment assistance, because companies that operate in them are often not efficient producers.

If there are extenuating circumstances, however, exceptions can be made. For example, many countries have begun trade liberalization programs intended specifically to ensure that domestic industries producing tradables are internationally competitive. Although India's level of protection is still quite high by global standards, it has since 1990 been one of these countries. Moreover, in the particular case of Titan Industries, management's intention from the beginning has been to develop an internationally competitive company, one that not only can compete successfully at home when trade barriers eventually come down but also can export to other countries.¹³

In other words, if a case can be made that an industry is a classic "infant industry," where competitiveness stands a good chance of being developed in a short time, early support may be justified even though trade barriers exist. Although these cases are not frequent, Titan seemed in 1987 to be a possible candidate, a judgment seemingly ratified by the company's early outstanding performance. The reality is, however, that this judgment may be premature, since foreign competition has not yet been present except in smuggled watches, where it is significant.

The development of Titan's extensive set of manufacturing facilities has had complex and interrelated effects on the community around it, as have other programs initiated by the company.

Titan's Firsts

In beginning watch production in India, Titan was the first Indian watch company to:

- make quartz analog watches
- stress style and international quality
- export Indian-brand quartz analog watches to Europe and the Middle East, creating in the process its own brand identification in these regions
- export completed movements for installation in European-assembled watches and, later, export and market completed watches for a European company
- attempt the manufacture and marketing of brand-name gold jewelry.

These achievements have placed Titan in the forefront of Indian companies in the manufacture and marketing of consumer products.

Whether or not such accomplishments have been examples for other Indian companies to follow is not certain, but there is some indication that they have. For instance, substantial local publicity has followed the company's development, and to the extent that others emulate positively what they read in respectable publications, Titan has been a pacesetter. Titan was ranked by the *Far Eastern Economic Review* in 1997 as India's best company for high-quality services and products as well as first in innovative responses to customer needs. For six years, a respected marketing publication has rated the company the "most admired consumer durable company" in India. In 1996 Titan received a national award for excellence in research and development for the design of its slim watch movement.¹⁴ Such awards, and the publicity that follows, provide detailed expositions of Titan's accomplishments and, presumably, motivate emulation by others.

Production and Office Facilities

Titan's manufacturing facilities for watches and jewelry are among the world's most modern, incorporating equipment from leading machinery makers. The company fabricates a variety of parts for watch movements, metal straps, cases, and jewelry. It assembles virtually all of the watches it sells. Some components, such as leather straps and watch faces, are purchased from nearby vendors, but for the most part Titan's facilities are fully integrated. This characteristic has allowed the company to respond quickly to market changes and to produce more than 1,000 models in response to market demands. The factory makes products efficiently and at a quality level exceeding international norms.

Buildings in the Tamil Nadu factory complex are arranged in a campus-like setting and are fully air-conditioned, a requirement for some of the manufacturing processes. Similarly, Titan's headquarters facility in Bangalore, about 30 kilometers north of the factory, is modern in every respect. The company operates a separate facility in Goa for producing watch circuit boards and, with Timex, another watch factory near New Delhi. In every aspect Titan has succeeded in constructing facilities that are enviable, especially in the Indian context.

Employment and Training

Titan Industries now employs about 3,800 people, mostly in its factories in Tamil Nadu. Nine-tenths of the production workers are from Tamil Nadu, more than half from the local district. Most production workers, before being hired, had never worked in a factory environment and required extensive training before taking their positions. All factory employees must be literate and numerate as a condition of employment and capable of reading and understanding manuals and instructions. In addition, the company conducts dexterity tests of all factory applicants, since assembly work involves the alignment of minute parts, thus requiring considerable agility. Although Titan workers cannot be considered a cross-section of Tamil Nadu's population in educational achievement, the location was selected because it is in a poorer area of India where job opportunities are scarce.

Training also is a continuous process at Titan. In 1998, for example, 2,400 employees took part in training, averaging two full days for each employee. Nearly 250 workers, 7.3 percent of the total, have received training abroad with technical partners. On average, these employees were in training for more than six weeks, learning technologies relevant to Titan's business. Technology

transfer also took place in Titan's own plants, with about 80 foreigners resident in India for varying periods. The company's effort to sustain high-quality levels has motivated it to extend training for process and quality improvement to various suppliers.

Titan's success in assimilating the new technologies is indicated by the fact that its own research and development group has already come up with several technical breakthroughs in watch design. Noted earlier, for example, was the engineering group achievement in designing a watch movement as thin as that of any competing watch in the world. In addition, Titan for a time exported movements to its own tutor, France Ebauche, having achieved cost and quality levels that exceed those of FE. Titan now also assembles and markets luxury watches in the Indian market for Phillippe Charriole, a prominent European brand. These sales are a measure of its acceptance as a high-quality manufacturer and innovative marketer of timepieces.

The company has a policy of hiring and training physically handicapped persons, particularly in its manufacturing operations in Tamil Nadu. These individuals, now numbering nearly 200, handle the same processes as others in the factory or office and are paid accordingly. For its attention to the handicapped, which includes working with a local nongovernmental organization to create a rehabilitation center, Titan has been honored by both state and national governments as one of the best employers of the handicapped in India.

Technology Transfer

Titan has entered into technology licensing or purchase agreements with:

- France Ebauche for movements and stepper motors
- Citizen (Japan) for case manufacturing
- Sycrilor (Switzerland) for high-quality cases and bracelets
- Jean Monnier (France) for high-quality cases and bracelets
- Bambi (Japan) for sheet metal bracelets.

In each case, the technology has been totally assimilated, and Titan can now independently design, engineer, and manufacture its various products. In each case as well, the company has advanced the technology beyond that received from technology providers, and Titan management now believes its research and development, engineering, and production capabilities to be at least on a par with those of any watch manufacturer in the world.

Market Development

When Titan entered the Indian market, watches were perceived as utilitarian instruments for recording time. Most watches sold were mechanical devices, a result of many years of import protection together with a decision by the Indian government that additional variety was unnecessary. The Tata Group, which had been attempting to obtain a license to enter the market for a decade, finally succeeded in 1985. When Titan entered the market, no one knew whether Indian consumers would even accept a new timekeeping technology based on electronics or, instead, would see it as a technology resulting in far too delicate a mechanism for the rugged use typical of India.

Titan's entry turned the market upside down. Watches became an item of style, as they had in much of the rest of the world, bought as much for personality reasons as for the usefulness of keeping track of time. For the first time, a manufacturer in the industry became market-driven, responding to customers' desires for increased variety, quality, and fashion. Although the number of watches sold doubled, several previous marketers failed and others were marginalized. Moreover, the quantity of smuggled quartz movements and watches exploded, making competitive life even more difficult for pre-1987 sellers.

In calculating net welfare benefits to the economy, therefore, one might be tempted to offset the financial gains for Titan against the losses of other producers. Even if such a calculation were possible, it would overlook the fact that consumers have obviously gained as well, having voted

with their rupees and, in the process, created a new market in which some producers could survive while others fell by the wayside. Consumer gains are virtually impossible to measure in the present circumstances.

Links to the Local Economy

Titan has been one of three large employers in the industrial park established in Hosur, a small city just over the border from Karnataka in Tamil Nadu. Together these and other, smaller, firms have given an enormous economic stimulus to the local community, which has grown from a population of 30,000 in the mid-1980s to more than 230,000 today. Commensurately, Hosur has developed several new housing colonies and built hospitals, shopping complexes, and entertainment centers, all in the past decade. Other employers have moved in as well to serve as suppliers to both the manufacturing complex and the city. The expanding industrial park has served as an engine of growth for the region as a whole.

In the specific case of Titan, the company has established linkages primarily through its relationships with suppliers and retailers. About 100 suppliers serve Titan's demands. Although no figures exist on numbers of jobs created in supplier organizations, perhaps two examples will illustrate employment effects from the creation of a major consumer product manufacturer like Titan. The first is Hirsch and Company, an Austrian-based firm manufacturing leather watchstraps throughout the world. Hirsch has built a specialized factory in Hosur to make straps, primarily for Titan, but it also is beginning a retail sales program of its own. Hirsch employs 180 full-time workers, including 130 in production jobs.

Another company supplying Titan, Kamla Dials and Devices Limited, is located in Bangalore. As its name implies, the company manufactures watch faces using Titan designs, and it employs 300 workers. The company employs an additional 200 workers, making more complicated watch dials for Titan and others, in a second plant near New Delhi. Kamla's management credits Titan's strict quality expectations with vastly improving the level of quality control. At the beginning of the relationship, all Kamla dials were inspected by Titan; that proportion subsequently fell to 50 percent. Kamla now manufactures 450,000 watch dials monthly in more than 800 varieties.

Titan has created an entirely new pattern of marketing. This has included the company's own exclusive shops and service centers, which together probably employ 1,000 persons today. In addition, the market for watches has doubled since Titan's entry, and other retail and distribution institutions have grown commensurately, an expansion that probably would not have occurred in Titan's absence. Thus the company's own employees represent only a fraction of the employment created in the early years.

Environment, Health, and Safety

Titan Industries has undertaken a number of initiatives to improve environmental quality and to enhance living conditions for its employees and for residents in the communities surrounding its factories. On the environmental side, the industry generally is clean and nonpolluting. Still, the company works closely with IFC technical experts to ensure that its production operations comply with World Bank and Indian government guidelines. These efforts include not only monitoring and containing water and air effluents, but also acquiring production equipment that avoids both noise and pollution within the plant to improve employee safety and health. Safety equipment is provided including, where needed, goggles, boots, and respiratory equipment. A fully equipped on-site medical center is staffed by two qualified medical doctors, and regular eye, ear, and general medical checkups are offered for all employees.

Beyond these initiatives, Titan has cooperated with other employers in the industrial park to improve environmental controls in the community as a whole and to upgrade the community's water quality. The employer group also has encouraged the expansion of the community's electricity grid and an increase in power generation capacity. Monetary support has been provided for an ophthalmic center and for five rural health centers in the local district.

Titan provides educational programs for workers' families and others. These include training in first aid, fire fighting and prevention, and personal hygiene. The company offers 40 scholarships for poor and needy students from the local district each year. Thus far, 350 students have been awarded these scholarships and have studied in business, teaching, engineering, medical, and other graduate programs.

Perhaps the most unusual contribution Titan has made in assisting its employees in the transition from rural or small-town life to living in a larger city and working in an industrial setting has been the establishment of Titan Properties Limited. This associated company is essentially a land developer concentrating on building affordable housing for Titan workers. The company absorbs the land and infrastructural costs in its development (roads, electricity, water, sewers), builds the houses, helps to arrange financing for employees, and sells the units at cost. The first phase of this program, involving 300 houses, has been completed. Titan also has a nursery facility for about 100 children of employees at its factory.

Taxes

Successful enterprises typically pay taxes, another way in which benefits are accrued, and Titan is no exception. Since its founding, the company has transferred \$1.4 million in direct taxes to government entities, almost all in the past two years. As expansion continues, and particularly as success is reflected in more profits, these transfers to the government can be expected to increase substantially.

Conclusions

For a company established barely a decade ago, Titan Industries already has become a leader in a number of dimensions related to economic development. First, and perhaps most important, the company is financially viable (see annex tables and figure), and its management has shown itself to be creative and adaptable. Intricate technologies have been fully absorbed, with Titan's own engineers now making research contributions unique to the industry. World-class manufacturing has been achieved. The firm's marketing prowess has earned Titan accolades and has already established it as the leading company in its industry in terms of market share, styling, and distribution channels. In its development, Titan has also become a model corporate citizen, providing for its employees' safety and well-being and for the improvement of the community around it.

Titan has been an exemplary case, one for companies throughout the developing world to emulate. Future years promise to be challenging for the company as it tries to expand its market in industrialized countries, to develop internationally recognized brands, and to cope with the inevitable competition to come at home. But if the early years are indicative, the future should be promising.

Annex Table 2.1 Balance Sheet: Titan Industries, Ltd., Fiscal 1995–98
(millions of U.S. dollars)

<i>Assets and liabilities</i>	1995	1996	1997	1998
Current assets	55.3	84.0	105.2	94.0
Gross fixed assets	81.3	86.0	88.0	86.1
Less depreciation	15.9	19.2	22.7	25.5
Net fixed assets	65.4	66.8	65.3	60.6
Investments	7.0	8.2	7.5	6.9
Total assets	127.7	158.8	178.0	161.5
Current liabilities	19.7	23.0	21.1	14.9
Short-term loans	6.7	24.4	37.0	44.0
Long-term loans	54.0	63.7	65.4	53.5
Equity and reserves	47.3	47.7	54.5	49.1
Total liabilities	127.7	158.8	178.0	161.5

Note: Exchange rates are end-of-fiscal-year rates.

Annex Table 2.2 Income Statement, Titan Industries, Ltd., Fiscal 1995–99
(millions of U.S. dollars)

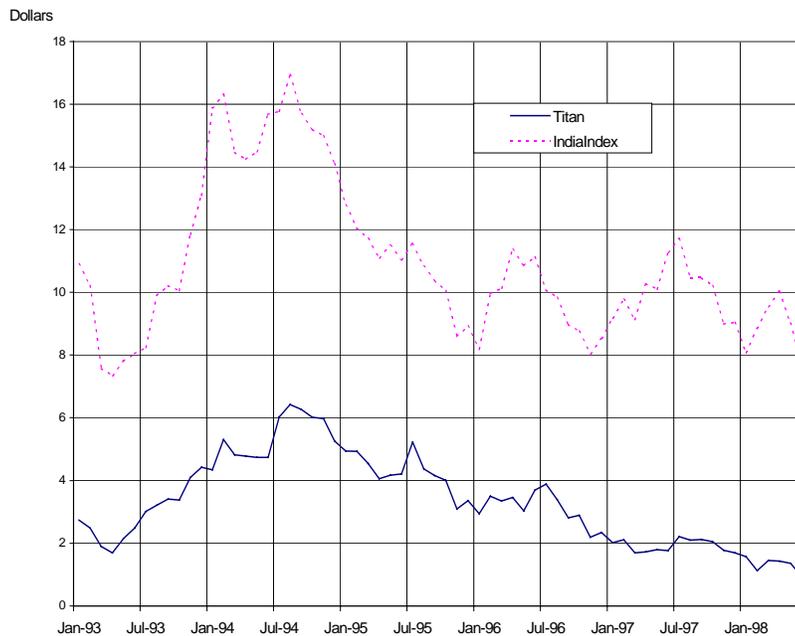
<i>Category</i>	1995	1996	1997	1998	1999
Income	90.5	195.7	118.7	120.3	115.2
Expenses	82.5	97.3	110.8	115.9	93.6
Operating expense	63.7	74.0	80.3	86.5	n.a.
Excise taxes	7.7	8.3	10.2	10.0	n.a.
Depreciation	4.1	4.8	4.5	5.1	n.a.
Interest	7.0	9.2	15.8	14.3	n.a.
Profit before income taxes	8.0	8.4	7.9	4.4	4.5
Taxes	—	—	1.1	0.3	0.4
Profit after taxes	8.0	8.4	6.8	4.1	4.1

n.a. Not available.

— Not applicable.

Note: Exchange rates are fiscal year averages.

Figure 2.1 Titan Industries and Indian Stock Market, 1993-98
(U.S. dollars)



NOTES

1. Protection of any type effectively separates domestic and international markets because it raises domestic prices above international prices. Protection thus imposes an extra cost on purchasers of a protected product, with the benefit typically going to local producers. Smuggling reduces this cost by arbitraging between the two markets, but it generally does not eliminate the consumer's additional costs entirely. For differentiated products, such as watches, trying to measure these costs would be difficult.
2. The company name was changed to Titan Industries, Limited, when products other than watches were added to the product line.
3. U.S. dollars unless otherwise indicated.
4. Tamil Nadu's Industrial Development Corporation is a state-owned agency that encourages industrial development in the state through various means, including direct investments in projects.
5. By 1998, production had reached 4.4 million units.
6. From an economic perspective, import protection is a costly way to shelter infant industries; subsidies are both more efficient and transparent.
7. Watch imports are still prevented, but movements can be imported over a tariff of 25 percent and parts at 25 to 40 percent, depending on the part. The liberalization will allow assembly of watches in India. Smuggling is encouraged not only because trade restrictions keep effective tariffs on imports of completed watches high, but also because excise taxes raise Titan's product prices in the market.
8. The shortage of cases in 1988 motivated the second IFCI-financed project, which created a case plant that, when fully implemented, would supply three-quarters of Titan's needs.

9. This growth continued, and by 1997 the company was selling almost 4.4 million watches annually, not only in India but also through exports to several foreign countries.
 10. The relationship between Titan and Timex has changed. In a move not atypical of joint ventures in India and elsewhere, Titan has reduced its shareholding in the joint venture. As of April 1998, the Timex joint venture took over marketing and servicing of its products. Titan has introduced its own low-priced brand, Sonata.
 11. In value terms, however, European sales equaled Mideastern sales, indicating the higher unit value of European watches.
 12. Although Titan has some sales in the United States, another highly competitive market, no special efforts have been made to become more recognized there. A product launched in the United States would be even more costly than in Europe, and any decision to do so has been deferred until financial results from the European operations are clearer.
 13. Because European volume is still comparatively low and entry costs high, Titan is not yet profitable in its European business.
 14. Slim watches have become increasingly popular in markets everywhere. Titan responded to this need by designing a line of thin watches, a particularly difficult technical challenge, and it has now succeeded in producing a movement only 1.15 millimeters thick.
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3 PAKISTAN: MILLAT TRACTORS LIMITED

Yannis Karmokolias

To promote the development of the Pakistani automotive component industry, IFC in 1998 provided a loan of about \$5 million to Millat Tractors Limited. These funds were in turn lent by Millat, at its own risk, to its component suppliers to expand the range of their products and to improve quality.

Although the government delayed project start-up because of lengthy approval procedures, implementation progressed satisfactorily. Millat repeatedly recycled the funds provided through the project, so that the total amount reaching component suppliers was about \$15 million. The repayment record to Millat and to IFC has been excellent.

A short time before the project began, the government had adopted a policy of indigenization—tractors and other vehicles assembled in Pakistan were to have much higher local content than before. Most component manufacturers in Pakistan are small and medium enterprises that had a limited capability to produce the range of components required by the government policy at a quality level that would not seriously compromise the quality of Millat's tractors. Finance was a critical need of supplier companies, but most had no access to institutional credit. Some could perhaps have borrowed from informal sources, but the cost would have been prohibitive.

The project design was new for Pakistan, in that it was an industrial enterprise instead of a financial institution that lent funds to a large number of small enterprises. The long-standing relationship and thorough understanding between Millat and the suppliers were key factors in the project's success.

Pakistan's automotive industry continues to be protected. Although the project was clearly successful within the framework of the government's policy to indigenize the automotive component industry, it is not clear that the policy itself has been as successful in its net contribution to development.

The project's development impact has been significant. It has given a major boost to the country's automotive component industry, and it has had an important, albeit indirect, impact on agriculture and on the Pakistani people who depend on those two sectors for their livelihood. The following are some of the major impacts:

- There has been an increase in forward and backward linkages generated by Millat's tractor manufacturing. Most notably, the number of Millat's local suppliers increased by 32 percent.
- The local content of Millat's two tractor models rose by 19 percent and 78 percent, respectively, after the project started. This, in turn, brought down the production cost of these models by about 8 percent and 18 percent, respectively, between 1988 and 1995.
- About a thousand jobs were created, mostly in component manufacturing.
- The majority of suppliers participating in the project attended training programs on quality improvement, environmental practices, and worker safety measures.
- The use of locally made components rather than imports generated net foreign exchange savings of nearly \$90 million between 1990 and 1997.
- Improvement in the range and quality of local components paved the way for the establishment of other automotive assemblers in Pakistan, starting with Suzuki, an IFC-funded project, and followed by other companies.

The indigenization policy allowed automotive buyers to benefit from the project through lower cost and improved quality of components. Consumers could have benefited even more, however, through free trade rather than indigenization.

It is likely, though this conclusion is not based on hard data, that the project had an indirect but positive impact on agricultural production.

Background

Pakistan has a total area of 887,700 square kilometers, of which nearly 40 percent, or about 30 million hectares, is arable. About 22 million hectares are presently under cultivation, and the remaining 8 million are idle because of marginal soil fertility, inadequate water supply, or rapid urbanization. The country's population is about 132 million and growing at a rapid pace, 2.8 percent annually. Per capita GDP is less than US\$500.

Agriculture plays a key role in the economy. About 25 percent of GDP is derived from agriculture, half of the total labor force is employed in this sector, and 70 percent of the country's population depends on it, directly or indirectly, for its livelihood.

Rapid population growth and stagnating or slowly increasing agricultural yields have necessitated increased food imports. Between 1980 and 1996 the food import bill rose tenfold in nominal terms, from Rs5 billion to Rs50 billion. Also in 1996, the cost of imported edible oils, Rs31 billion, exceeded that of imported fossil fuels, which amounted to Rs28 billion. The government has therefore made greater agricultural production a top priority.

The level of agricultural production depends on many factors, including mechanization, which is a key determinant for the total area that can be brought under cultivation and for the level of farm yields. Pakistan lags well behind other countries in the availability of tractors and other farm machinery. In 1996 there was one 50-horsepower tractor per 67 acres of cultivated land in Pakistani Punjab, or 0.30 horsepower per acre, compared with 1.00 horsepower per acre in Indian Punjab. The comparisons are even less favorable for other types of farm machinery such as deep tillers, harvesters, or combines.

The Millat company and its factory are in Punjab province near Lahore, Pakistan's second largest city. Millat's component suppliers are situated in or near several cities, the majority of them in the Karachi and Lahore areas.

Millat selected this site because of its proximity to Lahore and the advantages it provided with respect to transport, communications, power, and supply of skilled labor and because of its central location with respect to tractor dealers and tractor buyers. Lahore is both an industrial and an agricultural center. Textiles, cement, fertilizers, plastics, packaging materials, rice, cotton, cereals, and sugar cane are among the region's leading products. Punjab's agriculture is much more mechanized than that of other provinces.

Project Description

Millat was originally established under the name Rana Tractors as a private sector company, owned by seven individuals holding varying shares. Operations started in 1966 and at the beginning consisted entirely of assembling semi-knocked-down tractor kits supplied by Massey Ferguson of the United Kingdom. Gradually, as Rana gained experience, operations shifted to assembling completely knocked down (CKD) kits, thereby increasing value-added at the Rana factory.

In 1972 the company was nationalized and renamed Millat Tractors Limited. Massey-Ferguson continued to supply CKD kits. Twenty years later, in 1992, the company was partly reprivatized. The majority of the shares, 51 percent, were sold to senior managers of the company in the framework of the privatization program undertaken by the government of Pakistan. Massey Ferguson continued to supply the kits.

Millat produces two tractor models. One, the MF240, has 50 horsepower and is the workhorse of Pakistan's mechanized farm sector. The other is the MF375, with 75 horsepower; it came into production relatively recently. Because of its greater horsepower it is used not only for farming but also in construction, at airports, for garbage hauling, and for many other nonfarm uses. In recent years the tractor market has contracted (as will be discussed later in more detail), prompting Millat to start diversifying into the production of other farm implements and electric generators. In addition, Millat has had discussions with a Korean company for a joint operation to assemble automobiles. The diversification process is still in an early stage, however, and the automobile project is unlikely to proceed in the near future because of the economic instability in both Pakistan and the Republic of Korea.

Rationale

For many years Millat and its predecessor, Rana, adopted a policy of helping their Pakistani component suppliers expand their range of products. The objectives were to develop the domestic automotive industry and to reduce the cost of inputs. Millat implemented this policy through technical and financial assistance. The latter took the form of advances that suppliers could obtain from Millat, up to 15 percent of the value of an order. The scheme was beneficial for both sides and quickly became popular. The total size of the loans increased rapidly, from about Rs20 million in 1982 to nearly Rs44 million in 1984. Subsequently the volume of advances decreased, reaching only Rs30 million in 1985 and dropping to Rs7 million in 1987.

The dramatic decrease resulted from a shift in the government's fiscal and monetary policy, which made the availability and cost of credit to tractor purchasers much tighter and more expensive than before. The ensuing decline in tractor sales resulted in production cutbacks and reduced orders for components, which was the driving mechanism for credit to the suppliers. Furthermore, credit to Millat itself became more costly as interest rates went up. For these reasons, Millat lacked the facility to extend credit, as had been the case up to 1984.

Ironically, the scarcity of credit and the near demise of the loan project came just as the government launched a program to indigenize the automotive industry. The program called for the local content of tractors manufactured in Pakistan to be gradually increased to at least 85 percent of total value. Millat was obligated to reach 85 percent local content for the MF240 and 57 percent for the MF375 by 1995. By 1988 Millat had achieved 73 percent and 33 percent local content for the two tractors, respectively. Shortage of funds and the resulting slowdown in quality improvement and cost reduction in component production provided the rationale for IFC's intervention. By providing funds, IFC made it possible for Millat to revive and expand its program for lending to its suppliers.

Start-up and Operations

The project consisted of a loan of US\$5 million to Millat. The funds were on-lent by Millat to its suppliers at its own risk, the company assuming the foreign-exchange risk. The suppliers used the funds in different ways, such as expansion and renovation of plant, installation of better quality-control mechanisms, adoption of better management systems, and provision of working capital requirements. The Millat project applied the small-business credit-line concept, developed earlier by IFC for financial institutions, to an industrial enterprise and its SME suppliers.

There were significant start-up delays. Whereas the original estimates had the project winding up by October 1988, it was not approved by IFC's Board until May 1988, and disbursement of IFC funds did not start until October of that year. The innovative nature of the project caused the start-up delay. Until then, externally borrowed funds for loans had always been channeled through financial institutions, not through an industrial enterprise, as was the case in this project. Because of this, the ministries of finance, economic affairs, and production, which normally had jurisdiction over these matters, decided to seek further approval from the Economic Coordination Committee, resulting in considerable delay.

Once approval was granted and disbursements began, the project was implemented expeditiously, and all funds were disbursed on time without complications. In fact, because Millat and many of its vendors were familiar with the process, the project got off to an impressively fast start. In the eight months following the disbursement of the IFC loan, a total of Rs60.5 million (US\$3.24 million) had been lent to 64 vendors, almost half of Millat's vendors at that time.

Financial Performance

The project had a significant positive impact on both Millat and the suppliers who received IFC funds. Millat realized substantial cost savings as a result of vendor development and higher local content, because most locally produced components were less expensive than imports. This enabled the company to continue making profits even during hard times. For example, in 1991 and 1997, sales dropped substantially after the Agricultural Bank sharply curtailed the availability of subsidized credit for tractor purchases. In 1997 the situation was further complicated for Millat when the government allowed the importation of tractors free of import duties. Yet, in both cases Millat managed to remain profitable. Key financial data for Millat are shown in table 3.1.

Table 3.1. Millat Tractors Limited, Financial Highlights, 1988–97
(millions of U.S. dollars)

Category	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Net sales	89.4	105.0	93.0	64.3	59.6	83.5	81.1	94.3	97.6	52.1
Profit before tax	3.7	5.5	4.3	2.3	0.8	3.4	3.7	4.0	4.7	2.5
Net profit	2.3	3.1	2.6	1.4	0.5	1.9	2.2	2.6	1.8	1.9
Cash dividend	0.8	1.0	1.0	0.0	0.0	1.3	1.4	1.5	1.7	1.8
Retained earnings	1.5	2.0	1.6	1.4	0.5	0.6	0.8	1.1	0.1	0.1
Current assets	30.0	28.5	36.5	34.7	37.6	28.0	22.2	35.9	25.2	25.2
Net fixed assets	7.5	6.9	8.3	9.8	10.4	9.2	8.6	7.3	6.6	5.4
Total assets	37.9	35.7	45.3	44.8	49.6	41.1	33.7	45.9	34.1	32.6
Current liability	23.8	16.9	26.1	26.6	31.6	23.7	18.0	30.9	19.8	20.5
Long-term debts	1.0	5.3	4.4	3.5	3.8	3.9	2.5	1.2	0.5	0.1
Shareholders equity	12.5	13.1	14.5	14.6	13.8	12.9	12.6	13.3	13.5	11.8
Net profit/sales (%)	2.6	2.9	2.8	2.2	0.8	2.3	2.7	2.7	2.8	3.2
Current ratio	1.3	1.7	1.4	1.3	1.1	1.2	1.2	1.2	1.3	1.3
LTD/LTD+ equity (%)	7.2	28.8	23.2	19.5	21.8	23.2	16.8	8.5	5.0	2.0
Average Exchange Rate	18.0	20.5	21.7	23.8	25.1	28.1	30.6	31.5	33.9	39.3

There are no data on the project's impact on the financial situation of the sub-borrowers. Feedback from a small number of suppliers interviewed for this study indicates that the funds made available through the project were instrumental in strengthening the finances of participating vendor companies. Given that most were SMEs, few alternatives for obtaining credit were available to them. As one of them said: "It was almost certain that we would have had to borrow from individuals rather than financial institutions at very high interest rates that many of us could not afford." As discussed later, suppliers benefited from the project not only from the funds made available, but also from training and technical assistance.

Economic Analysis

The project had a direct economic effect at three different levels—the Millat company, participating vendors, and tractor buyers. Millat benefited from the lower cost of components; vendors benefited from lower financing costs and training, which resulted in expanded production and increased efficiency; and tractor buyers benefited from lower cost and higher quality tractors compared with what would have been available under the government's indigenization policy.

Unfortunately, data that would have allowed a clear comparison between relevant costs and benefits have not been kept. Millat kept track not of the suppliers' use of the funds, but only of the financial transactions, that is, funds advanced and funds repaid. The vendors also have not kept records that would make a with-and-without-project comparison possible. Finally, there are no data that would allow a quantified comparison of tractorized farm operations with and without the project. For these reasons it has not been possible to calculate financial and economic rates of return. However, there are some significant quantitative as well as qualitative indicators of development impacts, as described later.

IFC's Role

The main contribution of IFC was to provide funds which would otherwise not have been available to the majority of participating SME vendors. This resulted in greater local content not only for Millat tractors but also for other automobiles produced in Pakistan, from motorcycles to passenger cars and trucks. The full impact of the project was greater than the US\$5 million provided by IFC because Millat used the proceeds as a revolving fund repeatedly lent to its vendors. The total amount made available to vendors was about US\$15 million, three times the IFC loan.

Millat officials interviewed for this study maintained that the project was successful and quite beneficial to the company and its suppliers. They also felt, however, that there was a negative aspect, in that one of the covenants of the credit agreement placed restrictions on Millat's ability to borrow by requiring the company to maintain a certain debt-to-equity ratio until the IFC loan had been fully repaid. Toward the end of the project, when most of Millat's repayment obligations to IFC had been fulfilled, Millat sought to borrow from a local source to finance its diversification program but was prevented from doing so because of this covenant. Millat maintains that suggestions to IFC for modification of the agreement were not heeded. Millat management feels that greater flexibility on the part of IFC was warranted, particularly since most of the loan had been repaid at that time.

Developmental Impacts

The project itself was an innovation. As mentioned, the use of an industrial enterprise to channel funds to SMEs had not been tried in Pakistan. Until the inception of the Millat project, the intermediaries always were financial institutions. Whether this new concept is replicable depends on the particular circumstances of a prospective project. There is no question that the experience that Millat had accumulated by conducting a similar, albeit smaller, scheme with its suppliers prior to the IFC project had given both sides ample time to iron out any serious wrinkles. Furthermore, Millat had developed great familiarity with its suppliers, and this helped minimize repayment risk.

Technology Transfer

The Millat project enabled vendors to add a great variety of products to their production capability. Vendors also benefited significantly from training programs organized by Millat in Lahore, and many attended training sessions organized abroad by Massey Ferguson. The rejection rate for components, which was slightly higher than 3 percent at the beginning of the project, has now dropped to slightly below 2 percent. A tractor comprises 2,500 parts; Millat's capacity is 15,000 tractors a year. Clearly this is a significant improvement.

Backward and Forward Linkages

During the term of IFC's project, the number of suppliers to Millat increased from 130 to 162. The number currently stands at about 150 vendors, as some have consolidated (see table 3.2). In each of the first three years of the project more than 40 percent of the vendors participated in the loan program. Subsequently, participation decreased as the volume of tractor sales declined and the need for expansion and modernization abated. Recently the need has increased, but funds have not been available.

Table 3.2 Millat Vendors Participating in the Program, 1989–98

<i>Fiscal year</i>	<i>Participating vendors</i>	<i>Total vendors</i>	<i>Percent of total</i>
1989	64	130	49
1990	61	135	45
1991	56	142	42
1992	50	149	34
1993	36	155	23
1994	38	159	24
1995	32	162	20
1996	27	160	17
1997	21	158	13
1998 (est.)	n.a.	150	n.a.

n.a. Not available.

Beneficiaries among the assemblers include not only Millat but other automotive manufacturers in Pakistan, such as Suzuki, Toyota, Honda, and Fiat Tractors, which buy from many of the same vendors as Millat. As vendors indicated during interviews, the expansion they were able to finance through the project and the exposure to Massey Ferguson in one of the training programs motivated them to make ISO 9000¹ a goal, possibly leading to exports in the overseas aftermarket.

The Pakistani automotive industry has not yet developed to the extent found in countries with more advanced automotive industries. Such countries usually have a large number of component manufacturers categorized in several tiers. The top tier is occupied by component-system suppliers, such as transmission or seat manufacturers, who receive individual components from so-called second-tier suppliers, which are in turn supplied simpler components or raw materials by third- or fourth-tier companies. Pakistan has only one tier, and component manufacturers produce individual components. The industry is much more vertically integrated than in countries with a more advanced automotive industry. Nonetheless, some of the benefits accruing to Millat's vendors are passed on to raw material suppliers in the metallurgical, plastics, fabric, or electrical industries. Most of them are small firms for which the IFC project-related business composes a large part of their total operations.

The project has also helped generate significant forward linkages. Although the exact impact attributable to the project cannot be measured, it is noteworthy that there are 241 Millat-authorized workshops for tractor repair and maintenance across the country, 46 authorized spare parts dealers, and, as may be expected, a larger number of unauthorized repair shops and parts suppliers, as well as suppliers of fuel and lubricants.

Higher Local Content

To conform to the government's indigenization policy for the automotive industry, Millat launched a special program in 1982 which enabled it to achieve 73 percent local content for its MF240 tractor by the end of 1988. As has been the experience of other countries trying to increase local content, the early rate of progress is hard to sustain. Production of technologically simple, labor-intensive components is accomplished first, while the complex components, which are more difficult to master and require substantially greater investment, are left for later stages. For Millat and its vendors to go beyond 70 percent required skills and investments that could not always be justified by the comparatively low scale of production and the relative scarcity of finance.

Clearly the IFC project was instrumental in overcoming this hurdle. It made available the funds needed by component manufacturers to invest in the development of new products, which in turn enabled Millat to achieve higher local content for the MF240 and MF375 tractors by about 14 and 24 percentage points, respectively (see table 3.3).

Table 3.3 Local Content: Targets and Actual Levels Achieved, 1988–97
(percent)

Year	<i>Model MF240</i>		<i>Model MF375</i>	
	<i>Target</i>	<i>Actual level</i>	<i>Target</i>	<i>Actual level</i>
1988	73.0	73.0	41.5	32.5
1989	83.0	73.1	51.6	32.5
1990	83.0	81.2	51.6	44.8
1991	83.0	82.0	51.6	50.9
1992	83.0	83.1	51.6	51.8
1993	84.3	84.3	56.9	56.9
1994	84.8	85.0	56.9	56.5
1995	85.0	85.4	56.9	56.9
1996	86.3	86.5	56.9	57.3
1997	86.3	87.0	56.9	57.7

As table 3.3 shows, Millat has exceeded the local content levels required by the government. According to Millat it had an economic incentive to do so because, after some initial difficulties, the quality of locally made components is now, in most cases, comparable to imports, while the cost is very often lower. The company intended to push local content to 90 percent for the MF240, but because of a recent drop in sales this goal has now been put on hold until sales and production rebound to levels allowing sufficient economies of scale.

Estimated Financial Benefits from Increased Local Content

Increased local content has resulted in significant reductions in the production cost of Millat tractors. Local content in the MF240 increased by 12 percentage points during the period 1988–95, which corresponds to a cost reduction of 5.8 percent over imported components. The effect was even more pronounced for the MF375 tractor, the local content of which increased by 24 percentage points, corresponding to cost savings of 17 percent over imported components. These cost savings represent the sum for all components deleted during the IFC project period.

Not all components manufactured locally resulted in savings to Millat. Millat estimates that about 10 percent of all locally made components as required by the government's indigenization program are more expensive than imports of comparable quality. Table 3.4 shows a sample of imported and locally made components illustrating the cost advantages and disadvantages associated with the import-deletion program.

Table 3.4 Comparison of Costs of Selected Local and Imported Components

<i>Component</i>	<i>Local price (Rs)</i>	<i>CKD kit value^a (Rs)</i>	<i>Local price as percent of CKD value</i>
<i>Local components costing less than imports</i>			
Starter motor	2,500	3,725	67
Camshaft	1,113	1,350	82
Steering box	6,600	7,511	88
Joint differential cross	548	580	94
<i>Local components costing more than imports</i>			
Heater glow plug	126	48	263
Axle shaft	4,810	3,401	141
Crown wheel and pinion	4,372	3,429	128

a. Excluding duty and tax.

As demonstrated in table 4, some locally made components cost as much as one-third less than the corresponding CKD components imported from Massey Ferguson. This is primarily due to lower labor costs in Pakistan. For some other components, however, local products are more than twice as expensive as CKD imports. The main reasons are scale diseconomies because of low production volumes in Pakistan and, for some components manufactured by state enterprises, the inefficiencies often found in the public sector. The picture is similar for raw materials, with the cost of production lower in most but not all cases. The Pakistani automotive industry would be more competitive if the indigenization program excluded components that could be imported at lower cost.

Economic Benefits Associated with the Import-Deletion Program

Economic benefits have been calculated by taking the prices and removing transfer payments, such as taxes and import duties, from imported CKD components and raw materials and removing sales taxes from locally made components. Import duties have been based on data reflecting duty drawbacks on imported raw materials. However, because it is a long and bureaucratically cumbersome process, some smaller component manufacturers do not bother to claim these drawbacks but may try to pass the cost on to their customers, including Millat. Consequently, the cost savings presented in table 3.5 are somewhat underestimated.

Table 3.5 Millat's Cost Savings as a Result of Increased Import Deletion, 1990–97
(unit savings are in U.S. dollars)

Year	<i>MF240</i>		<i>MF375</i>		Total cost savings ^a
	Unit sales	Unit saving	Unit sales	Unit saving	
1990	10,754	68	853	893	1.49
1991	6,400	285	870	1,329	2.98
1992	5,742	383	959	1,414	3.56
1993	7,471	414	1,972	1,517	6.08
1994	7,006	330	2,190	1,533	5.67
1995	8,143	253	2,151	1,351	4.97
1996	7,701	250	1,927	1,354	4.53
1997	4,584	250	876	1,354	2.33

a. Millions of U.S. dollars.

An additional benefit for Millat is that with a greater number of locally made components, it has been able to reduce its inventory. Whereas CKD component inventory is maintained at a level of 45 days, the corresponding figure for locally made components is 30 days, and Millat is trying to reduce it further.

Development of the Component Industry

As expected, vendors interviewed for this study were unambiguous in supporting the project. They indicated that alternative financing at similar terms was practically nonexistent. IFC funds (see table 3.6) played an important catalytic role. It is estimated that the approximately \$15 million made available to vendors through the project helped them obtain new equipment and make improvements worth much more, as project funds were supplemented with funds from Millat, supplier credit, and vendors' own savings. Many of the new components produced in Pakistan during the project period, such as starter motors, cam and axle shafts, steering boxes, and a variety of foundry products, were the direct result of financing made available through the project.

Table 3.6 Total IFC Funds Loaned to Vendors, 1989–97

<i>Fiscal year</i>	<i>Rs million</i>	<i>US\$ million</i>
1989	60.5	3.2
1990	72.7	3.4
1991	57.1	2.6
1992	47.7	1.9
1993	33.0	1.3
1994	35.4	1.2
1995	28.0	0.9
1996	16.8	0.5
1997	14.0	0.4
Total	365.2	15.4

Important as the funding was, it would not have been as effective had it not been combined with extensive training, attention to quality, and systematic efforts to reduce costs. Pakistani vendors

do not yet have the capacity for research and development necessary to radically redesign existing components or to develop completely new products. Millat's R&D department was significantly expanded during the project to provide specifications and designs to vendors for products under development. Millat also expanded its capacity for sample testing to ensure compliance with its standards, which have remained the same for imported as for locally made components.

Millat has actively supported training for its vendors, conducting numerous workshops in Pakistan and helping vendors attend training sessions provided by Massey Ferguson abroad. Production costs for Millat components decreased significantly during the project period. It is not possible to pinpoint exactly how much of this is attributable to the project and how much would have occurred had the project not existed. Given the government's indigenization policy, it is virtually certain that local component manufacturers would have made much less progress in expanding the range of products, improving quality, and raising productivity had the IFC project not materialized. Even though the rupee price of CKD components increased by 137 percent during the period 1987 to 1995, and even though inflation in Pakistan during the same period raised the consumer price index by 100 percent, nominal prices of most locally produced components increased considerably less, by approximately 20 percent to 50 percent (see table 3.7).

Table 3.7 Price Increases of Import-Deleted Components, 1987 and 1995
(rupees unless otherwise noted)

<i>Component</i>	<i>Price in 1987</i>	<i>Price in 1995</i>	<i>Percent change</i>
Brake assembly	510	690	35
Alternator	720	1,100	52
Ammeter	296	354	19

Another significant indicator is the amount paid by Millat for warranty claims. Before the IFC project, warranty claims amounted to about Rs3,500 per tractor per year, whereas in the past two years they have averaged about Rs2,000 per tractor per year.

The development of the component industry was a major factor, together with substantial restrictions on imports, in attracting other automobile assemblers to Pakistan. Suzuki was the first to invest, in 1990, with IFC support; it has been followed by Toyota and Honda.

Market Considerations

There are two tractor manufacturers in Pakistan: Millat and Fiat. Millat is the largest, with a market share of 54 percent in 1997 (see table 3.8). Imports have not been significant because of protection afforded local manufacturers. Completely built-up imported tractors are levied a customs duty of 35 percent, while locally assembled tractors are burdened with a 10 percent customs duty on imported components.

On occasion, the government allows the importation of duty-free tractors. Most recently, this happened in the 1995–97 period when, under the Awami tractor scheme, the government allowed the importation of 50-horsepower tractors from Belarus and Poland, to support the mechanization of the agricultural sector by supplying tractors to poor farmers.

Table 3.8 Sales and Market Share of Millat Tractors, 1988–97

Year	<i>Millat total</i>		<i>MF240</i>		<i>MF375</i>	
	<i>Sales^a</i>	<i>Market share (percent)</i>	<i>Sales^a</i>	<i>Market share (percent)</i>	<i>Sales^a</i>	<i>Market share (percent)</i>
1988	10,913	53.0	10,000	58.9	913	27.6
1989	13,816	56.8	12,672	60.2	1,144	37.1
1990	11,607	57.7	10,754	62.5	853	31.0
1991	7,270	52.3	6,400	55.2	870	38.6
1992	6,701	62.7	5,742	64.6	959	53.8
1993	9,441	59.8	7,471	63.9	1,970	48.1
1994	9,196	57.4	7,006	63.9	2,190	43.3
1995	10,318	59.5	8,143	64.8	2,175	45.2
1996	9,628	60.0	7,701	64.0	1,927	46.0
1997	5,460	54.0	4,584	55.0	876	50.0

a. Units sold.

The volume of sales has a direct effect on the IFC project, given that lending depends on the size of orders for components, which in turn depends on the volume of sales of Millat tractors. Conversely, cost reductions attained in component and tractor manufacturing result in better quality and lower-priced tractors, which should boost demand. Of course, in addition to price and quality, demand is shaped by factors such as total cultivatable area, the size of the current tractor fleet in relation to arable land, the age of the current fleet, disposable agricultural income, and availability and terms of credit. As mentioned earlier, the tractorization ratio (tractor horsepower divided by units of cultivatable land) is much lower in Pakistan than in other countries at comparable levels of development. For the tractorization ratio to double over the next 10 years, as the government has targeted, an additional 50,000 units a year would be required over and above the 24,000 units a year that constitute current replacement demand. Also, although most tractors are used exclusively for agriculture, about 15 percent are operated for road construction and maintenance, transportation, cargo loading and unloading, haulage, and a multitude of other uses including, as the author witnessed, removal of broken-down cars (loaded in the bucket of an MF375).

Although demand is determined by many factors, the main determinant is the availability of credit from the Agricultural Development Bank of Pakistan (ADBP). When ADBP credit contracted in 1991 because of tight monetary policy, fewer than 11,000 tractors were sold the following year (see table 3.9) compared with more than 30,000 that had been projected. Recently, large budget deficits have forced the government again to tighten credit, reduce subsidies, and announce penalties against loan defaulters. This, together with the competition from Awami scheme tractors, reduced Millat tractor sales to about 4,500 in 1997 from more than 8,000 in 1995. Awami-scheme tractors have not only been imported free of duties and taxes but have been made available under concessional credit terms even easier than those normally required by the ADBP. Although only farmers owning less than 12.5 acres of land are eligible to buy Awami tractors, there have been widespread abuses amid charges of corruption and payoffs.

Table 3.9 ADBP Lending and Market Demand for Tractors, Fiscal 1985–98

Year	ADBP loan (billion Rs)	No. of ADBP- financed tractors	No. of tractors sold	ADBP-financed tractors as percent of total sold
1985	2.31	25,500	31,135	87
1986	1.96	20,603	23,431	88
1987	2.62	23,648	23,935	99
1988	2.65	20,288	20,588	99
1989	2.90	19,725	24,325	81
1990	3.47	20,090	20,103	100
1991	2.65	12,468	13,909	90
1992	1.74	8,823	10,683	83
1993	3.55	16,574	15,797	105 ^a
1994	4.07	17,127	16,028	107 ^a
1995	4.43	17,324	17,345	100
1996	3.48	9,392	16,286 ^b	58
1997	3.60	8,732	10,145 ^b	86
1998 ^c	3.85	9,285	9,959 ^b	93

a. In some cases credit was extended but tractors were purchased the following year.

b. Excludes tractors imported and sold under the Awami tractor scheme.

c. Through March 1998.

At present, Millat tractor prices are Rs389,700 for the MF240 and Rs688,500 for the MF375. ADBP interest rates have risen to 11–12 percent from 8–9 percent a year ago, while nonagricultural loans carry interest of 15–22 percent. In recent years, at least 90 percent of Millat sales have been on credit. In 1996 cash sales were somewhat higher, as Millat offered deep discounts in an effort to boost sales. While most new tractors are sold on credit, surveys have shown that almost all used tractors are sold for cash. In fact, there are reports that many new tractor buyers who receive ADBP credit resell their tractors immediately on delivery for cash. Meanwhile, as with other state banks, ADBP is awash in unpaid loans.

In view of the difficult fiscal situation in Pakistan, it is unlikely that easy credit for tractor purchases will be made available again in the near future. Until individual tractor purchasers use alternative methods of financing, and until the cooperative movement in Pakistan is strengthened, tractor sales may remain low. At the same time, political pressures by powerful farmers could well result in resumption of credit allocation by the ADBP.

Impact on Agriculture

Data that would allow measurement of the effect of improved tractor components on agricultural production are not available. The Punjab Economic Research Institute conducted studies on the socioeconomic impact of tractorization in Pakistan. Although dated, some of the findings are probably still valid today. The institute's research found that the introduction of a tractor in farm operations increases the area under cultivation by up to 30 percent in an average Punjabi farm, with tractor ownership bringing about a greater increase than tractor hiring. The switch from traditional to commercial crops (vegetable and fruit cultivation) has been most pronounced in tractorized farms. This may not necessarily be the direct result of tractor use but rather that tractor owners tend to be more progressive and more affluent. Often these farmers possess the technical and entrepreneurial skills to undertake this type of change.

The yields of all major crops on farms using tractors were significantly higher than on traditional farms. Gross farm income per cultivated acre was 37 percent and 14 percent higher on tractor-owning and tractor-hiring farms, respectively, compared with bullock-operated farms. Net farm income was consistently positive in tractor-operated farms while often negative in bullock-operated farms. Tractorization accelerated but was not primarily responsible for the decline of farm labor opportunities. Although the number of tenant farmers and permanent farm laborers declined drastically in tractor-operated farms, a survey conducted by the institute indicated that about 93 percent of the respondents found alternative employment opportunities in nonagricultural sectors. The survey also indicated that the average farm size has been declining and there is a need for smaller, multiuse tractors, which have not yet been developed in Pakistan.

Employment Generation

The IFC project had a significant impact on job generation. Even though the components developed through the project represent technological innovation for the Pakistani automotive-component industry, they are still labor-intensive in most cases, compared with the situation in countries more advanced in this field. Altogether about 1,000 jobs were created as a result of the project. Comprehensive data have not been collected, but in the case of one company assembling dashboard electrical instruments, 90 percent of all new recruits were women graduates of academic or vocational technical schools.

Foreign Exchange Savings

Through the reduction in imported CKD components, the project helped with the country's balance of payments. This is particularly significant in Pakistan, which, especially in recent years, has experienced a sharp drop in foreign exchange reserves. Foreign exchange savings resulting from the project are shown in table 3.10. These are not net savings, however, because imported inputs by component manufacturers are not included owing to insufficient data.

Table 3.10 Estimated Foreign Exchange Savings Attributable to the IFC Project, 1990–95
(unit savings are in U.S. dollars)

Year	<i>MF240</i>		<i>MF375</i>		Total savings ^a
	Unit sales	Unit saving	Unit sales	Unit saving	
1990	10,754	721	853	1,354	8.9
1991	6,400	770	870	2,114	6.8
1992	5,742	979	959	2,431	8.0
1993	7,471	945	1,972	2,704	12.4
1994	7,006	1,084	2,190	2,827	13.8
1995	8,143	1,141	2,151	3,019	15.8

a. Millions of U.S. dollars.

Fiscal Impact

Millat makes a significant contribution to the government's revenues and receives no special subsidies. As mentioned, however, Millat does benefit substantially from subsidized credit extended to tractor purchasers. Taxes and duties paid by Millat in 1990–95 are shown in table 3.11.

Table 3.11 Taxes and Duties Paid by Millat Tractors Limited, 1991–97

<i>Unit</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>
Rs millions	125.3	70.1	94.2	106.9	388.2	300.2	109.78
US\$ millions	5.3	2.8	3.4	3.5	12.3	8.6	2.80

Environmental Impact

The IFC project helped increase environmental awareness, though the lead in this respect had already been taken by Millat's management. Management works at keeping the plant not only safe and clean but also as environmentally friendly as possible. Much of the company's grounds are gardened, and Millat has won horticultural awards for the quality of its flowers. Vendor training sessions always include presentations on environmental awareness and the business sense associated with safe and environmentally friendly operations.

1. ISO 9000 is a set of internationally certified standards that influence quality.

4 THE PHILIPPINES: H&Q VENTURE CAPITAL FUNDS

Jack Glen

Capital markets have been key elements in IFC's overall development strategy. This central role for capital markets has rested on the assumption that growth follows investment and that capital is needed for investment to occur. In market-based economies, the private sector obtains the capital that it needs either from internally generated profits or from investors. Capital markets intermediate between companies and investors, thereby reducing search costs and risks to all parties. The result is a lower cost of capital, which implies higher levels of investment and growth. Capital markets comprise markets for debt and equity. This report looks exclusively at the venture capital component of equity markets. Equity is capital that has a claim on the residual value of the assets of a firm after all creditors have been paid. It can be either publicly listed or privately held. Venture capital is equity in every sense of the word, but it is used in this context as a fund of equity contributed by a set of investors, managed by a professional fund manager, and invested in a portfolio of privately held companies.

The companies invested in, in this case, are distinguished by their size, generally small and medium, and by their state of development, generally immature. As a result, there is significant risk associated with venture capital funds because the companies are more prone to failure than are larger and more mature companies. But the investors' risk is mitigated through the diversification effects gained by investing in a portfolio of assets and by the advantages of using professional fund managers. The result is that investors expect high returns for the risk that they bear, and they are willing to bear that risk because they expect their investment to be managed professionally.

This paper describes the investment activities of three venture capital funds in the Philippines, all of which are managed by the same fund manager—Hambrecht & Quist Asia Pacific (H&QAP). The first of those funds provided the impetus for the beginning of what has since become a vibrant and important venture capital industry in the Philippines. That industry is having an important development effect in the country by making equity available to young and growing private companies. The funds have produced an experienced and successful professional fund management team, a new phenomenon for the Philippines. The team can now continue to manage funds for investors, both international and domestic, and in so doing should have a significant future impact on the development of the Filipino private sector.

The objective of the managers in a venture capital fund is to maximize fund returns, which involves taking actions to make the companies the fund has invested in successful, and in many cases turning them into publicly held companies. Thus venture capital funds provide something special that is absent from most other equity holders: professional management advice. Fund managers are generally seasoned professionals who have experience working within the industries and countries involved. They also often exploit networks of international contacts that can provide important marketing or technological help, which can make the difference between success and failure for a young and struggling company. When successful, these managers help to create significant value in the companies that they nurture. And while these success stories may be limited in number, they are often dramatic, describing activities that have raised the return on the entire fund to levels that induce investor interest in spite of the risks.

In return for their efforts, fund managers expect to be paid handsomely. But in order to induce managers to exert effort in performing their tasks, investors demand that management compensation be linked closely to fund performance. For that reason, fund managers receive fees linked both to the size of the fund that they manage and to the performance of the fund, with the largest part of compensation linked to fund performance. Performance-linked compensation

implies that the companies the fund has invested in receive considerable attention from the fund managers.

Young companies with new ideas are at a disadvantage in the capital markets. They are often poorly capitalized, which means that the risk associated with them is too high for bank or other types of debt financing. On top of that, they have no track record, which also makes them unlikely candidates for bank loans. Publicly listing the equity of a new and unproven company is also difficult, if not impossible, owing to listing requirements. That leaves only private equity and internally generated capital to finance growth.

Among private equity providers, venture capital funds have several advantages for young companies. First, owing to their experience and diversification benefits, they are likely to demand less in expected return than other private equity providers. Second, the professional experience of fund managers and their network of contacts imply that they are able to provide much more than just capital. For these reasons, companies that are willing to tolerate outside investors may favor bringing venture capitalists into their companies, where they often hold seats on the board of directors.

IFC's Venture Capital Fund Experience

IFC's investment in funds increased rapidly in the past two decades. The period 1977–86 saw a relatively low level of activity, as domestic markets and investors were still undeveloped. In total, 10 funds were approved over that period, for a total of \$51 million in IFC investments. The pace quickened during 1987–92, as IFC became more active and interest in investing gained momentum. IFC approved 62 funds in that period for a total of \$354 million. The period 1993–95 saw even further gains in the development of investment funds: IFC approved 94 funds for a total of \$671 million.

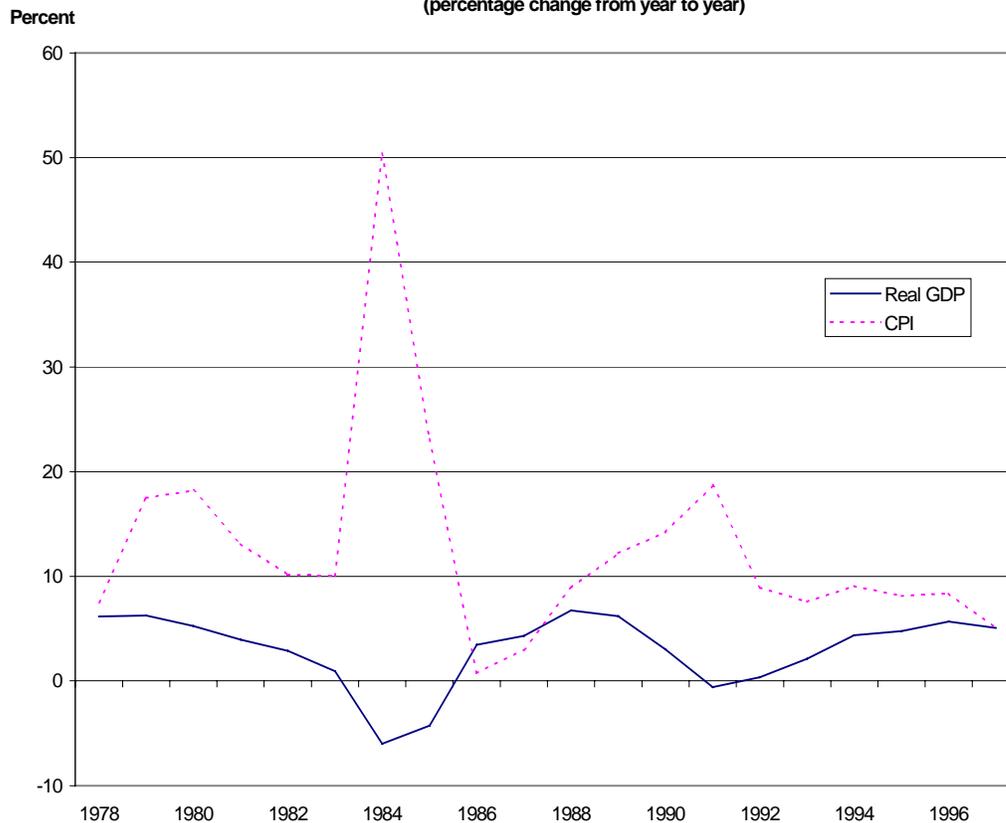
Not all of these approvals were committed, and not all of them were in venture capital funds. Table 4.1 shows total IFC commitments through the end of fiscal year 1995, reported by fund type. Venture capital funds were more numerous than other types of funds IFC promoted, but the average size of venture capital funds was much smaller than either portfolio or private equity funds.

Table 4.1 IFC Commitments to Funds through June 1995
(size and commitment in US\$ millions)

<i>Type of fund</i>	<i>Number of funds</i>	<i>Total size at inception</i>	<i>IFC commitment</i>
Portfolio	31	2,133	318
Private equity	15	2,382	261
Venture capital	49	1,533	196
Unit trusts	4	116	11
Total	99	6,165	786

Working closely with institutional investors, investment banks, fund managers and government regulators, IFC has been intimately involved in developing this new funds industry in emerging markets. Through a mix of supplying technical assistance to governments, investing directly, underwriting, providing for private placements with investors, identifying managers and core investors, advising on fund structure, and sitting on boards, IFC has pioneered and supported numerous fund vehicles in emerging markets. The H&Q-managed venture capital funds are an example of what happened.

Figure 4.1 The Real GDP and the Consumer Price Index in The Philippines, 1978-97
(percentage change from year to year)



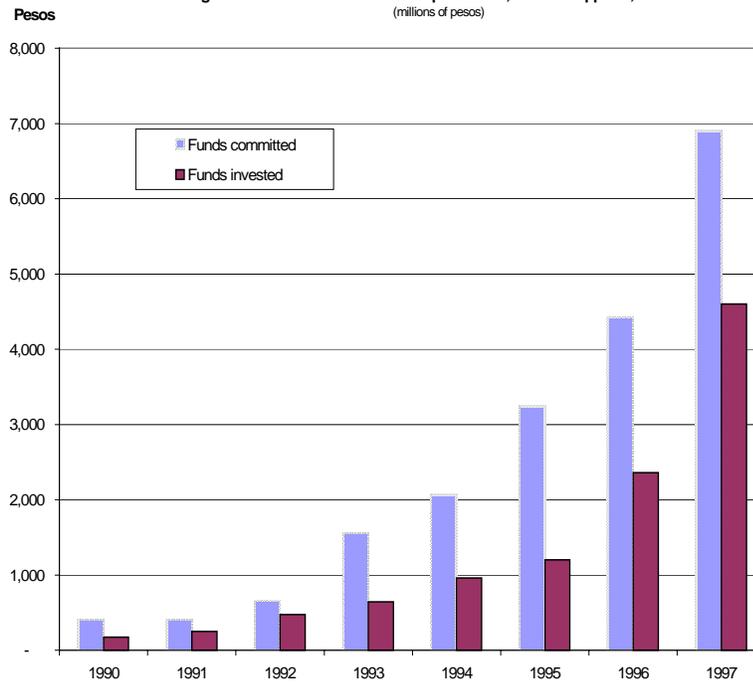
History of Venture Capital in the Philippines

Thirty years ago the Philippines was wealthy by regional standards, but poor economic policies adopted by the Marcos administration led to economic deterioration, especially in the last years of his government (see figure 4.1). Political change occurred in 1986, when Corazon Aquino assumed power. Her administration adopted a number of reforms aimed at reviving the economy, and economic performance improved temporarily but then declined at the end of her period in office. Fidel Ramos assumed the presidency in 1992, committed to a program of economic reform and liberalization. In recent years, those reforms have paid off; growth has been strong and inflation has declined.

Professionally managed venture capital has only a brief history in the Philippines. An attempt was made by local investors and IFC to initiate venture capital in 1977, but that effort failed and was abandoned. There were three apparent sources of failure: poor investment conditions, insufficient capital, and the absence of an experienced fund manager.

In 1988, IFC was approached by Hambrecht & Quist Asia Pacific, an experienced international venture capital fund company, with a proposal for a Philippine Venture Capital Fund (H&QPV1). H&QAP, which had had significant success with its previous venture in Taiwan, China, believed that with the change in government and improved economic circumstances expected in the Philippines, the time was ripe for another attempt to establish venture capital in the country. IFC agreed and committed \$2.5 million to the fund in 1989; this amount was supplemented with funding from the Asian Development Bank (ADB), DEG, and a number of international and Filipino investors, to total \$15.4 million.

Figure 4.2 The Growth of Venture Capital Funds, in the Philippines, 1990-97
(millions of pesos)



H&QPV1 was the first institutionally managed venture capital fund in the country, but viewed in hindsight it may have been slightly premature. After the capital had been raised, the Filipino economy deteriorated and uncertainty prevailed, which induced the fund managers to go slow on their investments, thereby reducing the ultimate returns earned by investors. By 1992, however, the economy had improved sufficiently and investor interest had increased to the point where the pool of private equity available in the country started to grow (see figure 4.2) as new funds flowed toward the opportunities available in the country. That growth gained momentum over the next four years, until the amount of money available had reached \$174 million as of October 1997. By then there were 10 active funds in the country, two of them managed by H&QAP. By initiating H&QPV1 in 1989, H&QAP had set the stage for what subsequently took place. But because only limited investment was possible in the early years of the fund, the ultimate returns to investors were probably not as high as they would have been if the fund had originated a year or two later. That, however, is part of the risk associated with establishing the first venture capital fund in a country just emerging from economic and political disarray.

The Filipino experience with venture capital is similar to what has happened elsewhere in developing Asia, as summarized in table 4.2. Total venture capital in developing Asia has increased from \$317 million in 1990 to \$4.4 billion in 1995, an annual rate of growth of 69 percent. Overall, the average annual growth rate in the Philippines was 48 percent, reflecting the late takeoff of venture capital in that country.

Table 4.2. Venture Capital Pool in Asia, 1990-95
(constant 1990 US\$ millions)

Country	1990	1991	1992	1993	1994	1995
China	113.0	176.6	817.5	1,285.7	2,102.3	2,965.7
India	98.0	89.2	99.2	113.2	171.3	266.7
Indonesia	23.6	65.4	45.9	73.5	160.6	213.7
Malaysia	18.1	58.8	115.2	124.2	133.1	379.6
Philippines	15.3	12.4	20.3	42.7	55.2	108.0
Sri Lanka	7.2	6.4	13.0	14.8	34.7	57.8
Thailand	42.0	53.1	70.8	73.1	81.9	143.3
Vietnam		9.6	20.9	118.9	217.8	259.9
Developing Asia—Total	317.2	471.5	1,202.8	1,846.1	2,957.0	4,394.7
Hong Kong (China)	1,806.0	2,049.9	2,473.0	2,798.4	5,323.6	6,898.8
Japan	11,024.3	13,616.8	14,301.3	16,174.2	16,752.2	19,068.7
Republic of Korea	1,291.1	1,439.3	1,489.8	1,537.1	1,692.0	2,984.3
Singapore	699.4	754.2	814.1	909.2	1,592.3	3,686.0
Taiwan (China)	304.2	346.8	429.9	459.1	506.2	837.1
All Asia—Total	15,442.1	18,678.5	20,710.9	23,724.0	28,823.4	37,869.6

Source: *The 1996 Guide to Venture Capital in Asia*.

Of the total invested in venture capital in the Philippines, six investments have involved the participation of IFC, as indicated table 4.3. IFC's investment averages about 20 percent of the total fund. Local investment accounts for an average 43 percent of the total, with foreign investment (including that of IFC) accounting for the remaining 57 percent.

IFC's activity in this market is also indicative of the market more generally. In fact, of the ten active funds in the country, IFC is an investor in five, a sign of IFC's view of the importance of venture capital.

Table 4.3 IFC Venture Capital Funds in the Philippines
(US\$ millions)

<i>Fund name</i>	<i>FY approved</i>	<i>Fund size</i>	<i>IFC investment</i>	<i>Percent total foreign investment</i>	<i>Percent local investment</i>
VIBES	1980	1.2	0.2	n.a.	n.a.
H&QPV1	1989	15.4	2.3	62	38
H&QPV2	1993	15.8	2.5	61	39
WAAV	1994	15.0	3.8 ^a	69	31
AGV1	1995	20.0	5.0 ^a	35	65
H&QPV3	1998	30.0	7.5 ^a	n.a.	n.a.

a. Approved amounts; disbursed amounts may differ.

The H&QAP Funds

Venture capital funds involve long-term illiquid investments in which returns are realized mainly at fund closure. The funds that IFC sponsored in the 1980s generally performed poorly, with nominal returns averaging between -1 percent and +5 percent a year. From that experience, IFC learned four important lessons: (1) management is the most important determinant of fund performance; (2) fund structure helps define incentives for managers to perform; (3) the ability to invest quickly is critical to earning high returns; and (4) exit can be difficult. It was with this experience in mind that IFC entered into the first H&Q fund in 1989.

Hambrecht & Quist is a San Francisco-based venture capital company founded in 1968. Its strategy is to identify high-quality growth companies and to provide them with equity capital and a full range of related investment services. In 1989 H&Q was managing more than \$600 million in total venture capital assets, with 15 venture capital funds in operation. The most mature of those funds had produced very attractive returns, and the company's investments included some of the best known venture capital-backed companies in the United States.

With extensive experience in the United States, H&Q decided to expand its operations into Asia, where it established operations first in Japan in 1983. The decision to enter Asia reflected a belief that the region would continue to grow rapidly and that growth would be accompanied by development of local equity markets, which would make exit from venture capital investments easier. Moreover, H&Q had its roots in the Silicon Valley with high-technology companies, and it believed that it could foster the transfer of technology to some Asian economies through venture capital investments. With these ideas in mind, it formed H&Q Asia Pacific in 1985 and made its first investment in the HanTech Venture Capital Corporation (Taiwan, China) in 1986. A second fund was established in 1989.

H&Q Philippine Ventures was established in 1988 in anticipation of improved economic conditions following the end of the Marcos era. The founders also believed that macroeconomic stability would be enhanced by the benefits of the country's cost-effective and well-educated labor force, an essential ingredient for export-based production. But it was also clear that the Philippines had been relatively isolated economically for several years and that this isolation had not allowed either markets or management to develop in an internationally competitive manner. This deficiency would permit H&Q to exploit its own network of global experts and its own experience globally with venture capital to add value to the companies in which it invested. Moreover, as the economy stabilized and developed, H&Q expected a coincidental development of the stock market, facilitating exit from its investments. For these reasons, the time appeared to be right to establish a venture capital fund in the Philippines.

Establishment of a venture capital fund requires the manager to lay the groundwork by compiling a set of potential investments. Even though this potential pipeline may not be used in formal discussions with investors, the groundwork is essential because, as mentioned, once the funds have been raised, getting them invested quickly is an important determinant of total return, thereby benefiting both investors and fund managers.

Venture fund investment can be injected at a number of different stages in the life of a company. Seed money is provided to entrepreneurs who have ideas that need to be developed into formal business plans. Once those plans have been formulated, start-up financing can be provided for business formation. Commercialization is the next stage of development for a company, with financing needed to purchase the assets to begin production and marketing. If commercialization is successful, financing for expansion will be the next step. At this stage, the company either becomes self-financing or, if market conditions require, will be forced to seek additional mezzanine financing, which is used as bridge financing to set the stage for a public (or private) issue of equity.

Venture capital can enter at any stage of the life cycle before public listing. H&Q's philosophy has been to avoid the earliest stages, which are the most risky, and to work primarily with companies that are in the commercialization, expansion, and mezzanine-finance stages, where sources of alternative capital are limited and the potential for the fund manager to assist the companies in developing contacts and strategies is most likely to pay off.

Once he is convinced that adequate deal flow potential is available, the manager attempts to raise the capital from investors. In the case of the Philippines, the prevailing macroeconomic environment impeded raising capital: growth was strong, but inflation was increasing, and the president was seen as vulnerable. Moreover, venture capital had not yet been proven to be successful in the country. Consequently, much capital was waiting on the sidelines for conditions to improve. For that reason, H&Q approached a set of multilateral and bilateral organizations for capital. With those organizations behind the fund, it was then possible to market the fund to other private investors.

Ultimately, the H&Q Philippine Ventures (H&QPV1) raised a total of \$15.4 million. Of that amount, IFC provided \$2.5 million, the Asian Development Bank (ADB) \$2.5 million, DEG \$1 million, and the Commonwealth Development Corporation (CDC) of the UK \$1 million. H&Q (USA) contributed \$0.5 million, and the remainder was provided by a combination of international and Filipino private investors. The demand by investors exceeded original expectations, and private investors ended up with 53 percent of the total. Of that amount, Filipino investors contributed 33 percent, international investors the remainder. Official multilateral and bilateral investors, including IFC, contributed 42 percent.

The fund was established with a fixed life of 10 years, after which all investments were to be liquidated and the proceeds distributed to shareholders. In order to provide some flexibility in liquidation, the managers have the option to extend the life of the fund by an additional two years. Fixed terms are common for venture capital funds because they force fund managers to concentrate on preparing their investments for eventual exit. All of the funds that IFC has worked with in the Philippines have had fixed terms, and 10 years is very common.

As mentioned, economic conditions deteriorated shortly after the fund originated, inducing the fund managers to go slow on their investments. The fund made five investments in 1989 and three additional investments in 1990, but the total in those two years was only P95.7 million, less than 30 percent of the total fund amount. Activity increased rapidly in 1991 and 1992, and gradually additional investments were made until all fund capital was invested and a total of 24 companies were included in the portfolio. The average investment was P16.6 million (about US\$0.6 million at the then-current exchange rate), representing, on average, 13 percent of the company's total equity.

As of December 1997, the return on the fund was 17 percent a year, in pesos, assuming divestiture of the remaining assets at conservatively estimated values. Converting that return into dollars results in an annualized return of 11 percent. Of the 24 investments made, 1 has been completely written off and 12 have been divested. Of the 12 divested companies, the average annualized rate of return has been 18 percent. Eleven companies remain in the portfolio, with an estimated average annualized rate of return of 16 percent. This figure is likely to underestimate the return that will be realized because of the assumed exit values. Eight of the companies have gone public since the investments were made; one is scheduled to be taken public through an international listing on the NASDAQ, a U.S. exchange, and the others will be listed on the local Philippine Stock Exchange (PSE).

The composition of the portfolio has changed over time as companies came in and left with divestiture. As of the end of 1997, the sectoral composition of the portfolio was: telecommunications, 49 percent; food and beverages, 21 percent; transportation, 9 percent; construction, 9 percent; manufacturing, 7 percent; and technology, 5 percent. By maturity, the

portfolio composition was: divested, 52 percent; pre-IPO (initial public offering), 26 percent; expansion, 11 percent; IPO/listed, 7 percent; and turnaround, 4 percent.

Despite the relatively slow start, by 1992 it had become apparent that the fund was performing well, and H&QAP began organizing a second fund, H&QPV2. The central idea behind that fund was to capitalize on the experience from the first fund to provide investors with better returns and the companies invested in with both capital and the benefit of their experience. H&QPV2 was launched in late 1992. Combined first (June 1994) and second (June 1995) capital raisings gave the fund a total of P412 million (US\$15.8 million equivalent at the time). IFC's contribution was US\$2.4 million, representing 15 percent. In total, 40 percent of the capital was raised from domestic investors, more than the amount in the first fund, with the remainder from international investors. Public capital from multilateral and bilateral organizations represented 35.6 percent of the total, less than the amount contributed to H&QPV1, reflecting the experience of the first fund and the improved economic environment.

To date, H&QPV2, which employs the same management team as H&QPV1, has performed better than H&QPV1, producing an estimated annualized rate of return (in pesos) of 25 percent, as of December 1997. Calculated in dollars, assuming that the investments were liquidated in early 1998 at the then-estimated values, the annualized return was 15.5 percent.

Part of the reason for the success of the fund is the speed with which the investments were made. Six investments, representing 43 percent of the total portfolio, were made in the first year of operations. The ability to make the investments quickly reflects in large part the experience obtained by the managers from H&QPV1.

As of December 1997, the H&QPV2 portfolio consisted of investments in 15 companies—three of them are repeat investments from H&QPV1—for an average of P26.7 million each, well above the average for H&QPV1. As of the end of 1997, the sectoral composition of the portfolio was: construction, 51 percent; food and beverage, 21 percent; technology, 18 percent; and transportation, 10 percent. By maturity, the composition of the portfolio was: divested, 38 percent; expansion, 27 percent; turnaround, 18 percent; start-up, 11 percent; and IPO/listed, 6 percent. Of the total portfolio, five companies have gone public since the venture capital investment was made; all are listed on the PSE. An additional company expects to list on the NASDAQ later this year.

Concentration in fewer companies reflects the experience gained in H&QPV1, where the fund managers learned that the diversification benefits of a large number of assets were offset by having to spread their managerial talent thinly. Moreover, larger equity positions allowed the managers to play a more active role in each of the invested companies, which also increases value. And finally, taking very small companies public in an illiquid market can be difficult; listings of larger companies are generally easier.

The performance of the two H&Q-managed funds has been well above the average for IFC. Globally, IFC venture capital investments have produced annualized dollar returns of only about 1.9 percent, compared with 11 and 15 percent respectively for the first and second H&Q funds. With the success of the first two funds behind them and the economy continuing to improve, H&Q began organizing a third fund, H&QPV3, in 1997. IFC approved an investment of up to \$7.5 million, representing up to 25 percent of the total. The fund managers are now raising fund capital, with expectations that the total fund size will be \$30 million–\$35 million. Like the first two funds, H&QPV3 will have a 10-year life. Expectations are that demand by invested companies for equity financing will increase following the East Asian economic crisis, because there are many more companies in financial distress.

Development Impact

A venture capital fund affects development by providing capital to companies, providing managerial advice to companies, and promoting capital market development.

Capital

Provision of capital is the most obvious of a venture capital fund's contributions. The first two funds made available a total of \$31.2 million to 39 private Filipino companies during the period 1989–97, an average of \$800,000 for each company. The fund's investment represented, on average, about 9 percent of the equity of each of the companies. This amount was also leveraged by a regional fund under H&Q management, which has participated in several of the invested companies together with the H&QPV funds. This provides additional capital and is one of the advantages of working with a fund manager that is a member of a global network.

These amounts may not appear to be large, but in part that is the point of venture capital. Entrepreneurs produce ideas for products or companies, but they need capital to commercialize those ideas. At the stage of development at which venture capital is involved, small amounts of capital can often make the crucial difference in the entrepreneur's ability to build the company into a viable commercial enterprise. Once commercial viability is possible, other sources of capital become available through either bank lending or private or public providers of equity. The role of the venture capitalist is to make the equity available early in the development of the idea, because that is when it is least available and when the returns are expected to be highest. Of course, by investing at an early stage, the venture capitalist is exposed to more risk. Box 4.1 provides two examples.

Box 4.1 James Martin & Co. and LA Animation

The Philippines has a well-educated and inexpensive labor force, ideal for use in the development of computer software. A local Filipino information system consulting company wanted to begin software production, but start-up capital was needed to bring the company to the stage at which it could begin to bid on international contracts. After an original investment by H&QPV1 of \$570,000 in 1990, well before the company had proven that it was commercially viable, the company has proven itself. As a result, the company was able to merge with other foreign information system consulting companies from Australia, France, and the United Kingdom. The consolidated company, James Martin & Co., now plans to list its shares on the NASDAQ later this year. That listing will provide the company with access to a large amount of relatively inexpensive capital that it can use to expand its operations. It will also give H&Q an exit mechanism and likely high rates of return.

Not all investments are so successful. Another Filipino entrepreneur also hoped to exploit skilled Filipino labor by entering the international market for animation. After an investment by H&QPV1 of \$705,000 in 1991, LA Animation set up operations and made preparations for bidding on a contract to provide products to an international company. The work was good but not good enough to win the contract, which left the company without a future, and the investment was sold at a loss.

From IFC's perspective, venture capital funds permit much broader access to local companies than would otherwise be possible. Given the size and stage of development involved, the capital needs are generally too small for IFC to invest in directly because the overhead costs involved, both in generating the investment and in monitoring it, would be high. These costs are reduced through the use of fund managers, because they are locally based, which provides them with an information advantage, as well as lower overhead and travel costs. In addition, given the risk associated with any one investment, the diversification benefits from a fund make these small investments individually more attractive. And finally, the leveraging that IFC obtains on its own investment by attracting other investors into the fund is an obvious advantage as it allows a larger

portfolio of investments to be made, thereby permitting the costs of monitoring to be spread over many investors.

In the case of the H&Q venture capital funds, the strategy on how much capital to provide to the companies in which it invests has evolved over time in response to experience and market conditions. This learning is one advantage of employing a fund manager; it is also one of the goals that IFC had in mind—developing experienced fund-management expertise—when it undertook its venture capital fund initiative in the Philippines. In the first fund, H&Q took a larger share of the equity, 12 percent on average, in the companies it invested in, but the amount invested was a relatively small \$0.6 million. That is why the fund was invested in a large number (24) of companies. But this large number taxed the fund managers' time and meant that, on average, the companies were not able to benefit as much from the managerial expertise of H&Q. For that reason, the average amounts invested in the second fund were increased to \$0.9 million, each representing a slightly smaller (5 percent) share of each company's equity. This decrease in percentage amount invested also reflected a shift to larger companies; average company size increased from \$16 million to \$40 million (as measured by total assets). The shift to larger companies was a result of experience; exiting from larger companies was found to be easier because public listings for them are more likely than for very small companies.

In the third fund, for which the capital is currently being raised, the target size for companies and the amount to invest in them are likely once again to shift in reaction to experience and market conditions. In this case, market conditions suggest that even larger amounts of capital are needed but that H&Q needs to hold a larger part of the total equity in order to have more influence on management. Moreover, larger investments will permit H&Q to devote more managerial time to each investment, which experience suggests is important to maximize the probability of success. The third fund will also involve activities outside of Manila for the first time. Competition among venture capitalists has increased since the first two funds were started, and H&QAP would like to take its experience with it to other parts of the country. Specifically targeted will be Mindanao, with a regional office and resident staff to identify and work with local companies in which the fund has invested. Box 4.2 provides an example of one of H&QAP's success stories in its first fund.

Box 4.2 Carmelray

Carmelray is a 230-hectare industrial estate located a short distance outside Manila. Its location makes it easily accessible to international air and ocean transport, as well as to the Manila market. The property was developed by Carmelray into an industrial estate in 1989 and was among the first industrial estates in the country. Its success has resulted in much imitation. The estate is now home to 46 companies from a variety of industries.

Nationally, there are now 81 registered industrial zones, occupied almost entirely by foreign investors. These zones employ a total of 562,085 workers nationally, and in 1997 they produced exports valued at \$10.6 billion.

Carmelray provides its tenants with infrastructural support services, including guaranteed power, water, telecommunications, sewage treatment, gas, roads, and prefabricated buildings, if needed. In addition, a training center for labor is capable of producing 500 students annually, at employee expense.

H&Q provided capital to Carmelray in 1991 at a time when demand was increasing and capital was needed to provide the necessary development. The park is now fully developed and occupied, so H&Q's role has diminished. Consequently H&Q sold the investment back to the developers in 1995, realizing an attractive rate of return on its investment.

A final point to make regarding the provision of capital is that, of the total amount invested through the two funds, much came from abroad. For the first fund, 62 percent of the capital was from international sources. That fraction declined slightly in the second fund to only 61 percent,

reflecting the development of the venture capital industry in the country, the experience of H&Q to manage funds, and the confidence that local investors have gained over time in venture capital.

Provision of international capital is an added advantage of venture capital funds. Without the advantages that funds provide, it is highly unlikely that individual foreign investors would have been willing or able to make equity investments in the small and emerging companies that characterize these funds. Box 4.3 gives an example of an H&QAP investment that gained access to other international capital.

Box 4.3 Cosmos Bottling Corporation

RFM Corporation produces a variety of food products. It started as a small family-owned flour-milling business, then diversified into other food products such as hogs and processed meat. In 1989 a new president took over the company and began a process of acquisition and consolidation of other products, such as ice cream and soft drinks, through subsidiaries. As a result, the consolidated company now has more than 10,000 employees. Most of the inputs used by the company in its different products are locally produced.

H&QPV1 became an investor in Cosmos Bottling Corporation, the soft-drink subsidiary of RFM, at the time it needed capital to begin its acquisition program. At that time, H&Q's investment represented the equivalent of 40 percent of the company's assets. The acquisition program allowed Cosmos to undertake a variety of investments that resulted in the company's increasing its market share in direct competition with multinational corporations. In 1994 the company was ready to go public and made an initial public offering on the Philippine Stock Exchange. In 1996 the company raised more capital through a 10-year, \$65 million convertible Eurobond offering to international investors. H&Q divested its investment around that time. Cosmos is the most successful subsidiary of RFM and accounts for a large portion of the conglomerate's profits.

Management Advice

Venture capital funds provide more than just capital. An important part of the value added is the expertise in strategic/financial planning, marketing and accessing complementary financing that they bring to the companies in which they have invested. Those skills are especially valuable in transitional and low-income countries, where such skills are in short supply. For example, by demanding consistent standards of financial planning and reporting as a prerequisite for investing in a company—H&Q requires the companies in which it invests to submit quarterly financial statements, the annual versions of which must be prepared by independent auditors—fund managers can have a significant effect on the behavior of the companies. The development impact of this advice is enhanced when the company is successful.

The key to providing this extra added value is to have experienced fund management that has knowledge of the local market, as well as a network of international contacts that can be exploited to increase company value. At the time IFC became involved in H&QPV1, no experienced fund manager existed in the Philippines. By joining with H&Q, which had a successful track record internationally, IFC was able to exploit the fund's international network and experience. Then, over time, their experience in the Philippines grew as well, making H&Q even more valuable to investors and the companies in which it invested.

IFC made a contribution in this regard as well. Through its own experience with funds, IFC has developed expertise on which fund structures and strategies are likely to prove most successful. In this case, IFC transferred some of that knowledge directly to H&Q by appointing an IFC staff member who has considerable experience with venture capital funds in developing countries as a member of the funds' boards of directors. That staff member played an active role in monitoring the activities of the funds and advised the fund managers on investments and exit strategies throughout the lives of the funds. Moreover, IFC's experience has taught it that the contracts between funds and fund managers play an important part in providing the proper incentives for

fund managers to maximize the value of the investments. IFC played an important role in the design of the H&QPV funds.

In order to be able to add value, given the specific experience and skills that individual fund managers possess, H&Q has carefully identified the strategy that it uses to select the companies in which it invests. First, it concentrates on the potential for high growth, which would likely be reflected by the company's industry or market. As a result of its experience in other countries, H&Q emphasizes technology-related industries, but it recognizes the potential of other industries in less developed countries as well, and it has had considerable success in the Philippines with companies outside of the high-technology markets.

A company's current financial condition can also be the basis for adding value and expecting growth. For example, financially distressed companies can present enormous growth potential if their condition is the result only of poor management. With adequate investment, H&Q may be able to replace management and set the company on a growth path. In such distressed cases, H&Q considers investments in mezzanine/pre-IPO situations. Otherwise, its strategy is to consider mainly companies that are in the start-up or commercialization/expansion stage of development, because that is where they believe they can add the most value.

Finally, H&Q considers the potential for profitable exit from the company. Most generally, this requires at least the possibility of a public listing of the shares. Preferably, such a listing should be foreseen within three to five years to make an investment attractive. For additional examples of H&QAP investments, see boxes 4.4 through 4.7.

Box 4.4 Headway

Headway produces magneto-resistive (MR) heads for computer hard disk drives. A multinational company, Headway is the second largest producer of these heads in the world. H&QPV2 made a \$1.5 million investment in Headway in 1997 in conjunction with that company's planned investment in production facilities at Subic Bay. Although the investment gives the fund only 3.5 percent of total equity, those shares, combined with shares that H&Q manages through its other regional funds, provide the fund managers with four out of six seats on the board of directors, permitting H&Q to exercise considerable influence over the management of the company. The seats also permit H&Q to exploit its international connections in the market for high-technology goods and services.

Box 4.5 SkyCable

SkyCable's concept is to provide clear, uninterrupted television signals and a broad base of media products to greater Manila. H&QPV1 invested P55 million in 1991 and brought in an additional P110 million from other investors for a total of 30 percent of the company's total capital needs. Together with SkyCable's management, H&QPV1 refined a business plan to install a cable system in Metro Manila and to provide media programming to outlying provinces via satellite. H&QPV1 also brought in joint-venture partners for pay-per-view and infomercials. By February 1996 there were more than 136,000 subscribers, with a nationwide reach via satellite of 183,000, making the system the dominant player in the industry. The company, employing more than 1,100 people, became cash flow positive after less than one year of operation and profitable after two years. A public listing of the company's shares is expected.

Box 4.6 Music Semiconductor

Music Semiconductor is a tenant of Carmelray, another H&QPV1 company described above. Music, which is the testing facility for semiconductors produced elsewhere in the region, was previously located in Manila near the airport. Those facilities were inadequate, however, and the location and facilities offered by Carmelray induced the company to move its operations to the Carmelray estate in 1997. Music, which is part of a global network of affiliates that design, manufacture, and market semiconductors, was the recipient of H&QPV1 capital in 1992 and of H&QPV2 capital in 1994. Since then, the company has appointed a new chief operating officer, changed its product emphasis from video graphics to network router chips, and obtained two ISO certifications. It went public in 1996 with a listing on the Philippine Stock Exchange, after which H&Q divested its position. Music was the first high-technology stock listed on the PSE.

Box 4.7 Southeast Asia Foods

H&Q invested in Southeast Asia Foods (SAFI) in 1990, at which time the company was a going concern. The company produces food products and was formed over time by the consolidation of three companies, each of which had its own brand and line of products, some overlapping and competing. The H&Q investment was part of a restructuring program to increase economies of scale by rationalizing production, distribution, and marketing of these products. In 1996 the expansion/rationalization proceeded further with the merger of SAFI with UFC, another food products producer. At the time of the merger, the company had 17 factories and 2 separate distribution systems. Rationalization will permit a few factories to be combined and the distribution system to be streamlined.

The company produces a line of sauces and condiments that are sold nationally in supermarkets and small retail shops. Only a small portion of its output is exported, but the company hopes to increase exports. It is actively engaged in research and development to produce both new products and new ways in which to deliver those products—for example, by replacing glass with plastic packaging to reduce cost and waste. The company employs about 900 workers, most of whom work in regional factories located well outside major metropolitan areas. The company receives its main inputs from local farmers.

H&Q provided financing at a time when the company needed capital to finalize its first set of acquisitions. That process allowed the company to begin the rationalization process that moved the indigenous industry from one of a set of small regional producers to a national player that could compete directly with multinational producers that are active in the Philippines. To help in that regard, H&Q, which holds a board seat, was instrumental in identifying an executive with the skills and experience needed to run a company in direct competition with multinationals. As a result of these efforts, the company is now thriving and produces products with recognized brand names that compete effectively in the Filipino market.

Capital Markets

The establishment of H&QPV1 as the first professionally managed venture capital fund in the Philippines paved the way for considerable capital market development. As shown in figure 4.2, it led the way in the development of the venture capital industry itself, which has provided about \$170 million in private equity to companies since 1990. That capital has gone primarily to small and medium-sized companies without easy access to bank funding or public equity. Many of those companies have prospered, thereby providing jobs and growth for the country. In the case of H&Q, the capital provided has resulted in the employment of several thousand workers, many in less developed parts of the country, in jobs that otherwise might not have been available.

The establishment of a venture capital industry has also promoted the public issuance of equity, increasing both the breadth and the depth of the existing stock exchange. As mentioned, H&Q is most interested in investments that can be taken public, because a public listing offers the best

manner for the fund to realize value on exit, and more than one-third of the funds' companies have been taken public.

The H&Q experience with public listings coincides with an increase in the number of listed equities in the country more generally. From 1989, when H&QPV1 made its first investments, to 1997 the number of listed companies on the PSE grew from 144 to 221, while market capitalization jumped from \$4.3 billion to \$31.4 billion. Over the same period, annual traded volume went from \$2.4 billion to \$25.5 billion. These increases in the number of equities, their total market capitalization, and traded volume has one primary benefit: a lower cost of equity for listing companies. This occurs for three reasons. First, the larger number of listed shares means that the choices available to investors are more varied, allowing greater diversification of risk. This, in turn, lowers the rate of return required by investors and the cost of equity to companies that issue shares. Second, higher market capitalization means that the price per share has increased, which also reduces the cost of equity to companies. Third, more activity on the exchange means that shares are more liquid, thus reducing the risk associated with selling them and further decreasing the cost of equity.

The development of the Filipino equity market has been remarkable during 1989–97. Price/earnings ratios, which provide insight into the expectations of the market regarding both required return on equity and growth prospects of earnings, increased from 12.6 in 1988 to 20.0 by the end of 1996, indicating lower costs of equity for listing companies. H&Q-managed funds played a part in that development by actively encouraging the public issuance of shares on the PSE. The companies in which H&Q invested have issued nearly \$150 million in new shares on the PSE in recent years. In addition, H&Q encouraged the issuance of shares on international exchanges—two listings are forthcoming—which will provide the companies in which it has invested with access to presumably even lower-cost equity. These international listings have the further effect of increasing the exposure of Filipino companies to international investors, many of whom are reluctant to enter into investments on the PSE directly. An example of how H&QAP expertise helped a company in which it had invested take its company public internationally is given in box 4.8.

Box 4.8 Philippine Seven Corporation

Philippine Seven Corporation owns the exclusive national franchise to all use of the 7-Eleven name and license in the Philippines. The company also benefits from technical assistance and information systems provided by the licensor. After obtaining the license the company opened the country's first 24-hour convenience store in 1984. By 1998 the company had established 140 stores, was employing about 1,900 workers, and was prepared to go public, which it did in February.

The introduction of 7-Eleven has radically changed retail marketing in the country by providing 24-hour retail service in Manila, which was previously not widely available; by importing information systems for inventory control and sales analysis, thereby permitting better control of working capital and reducing waste; and by making the stores themselves more attractive and service-oriented places to shop. As a result the company has captured about half of the convenience store market in Manila just as the convenience store market is expanding rapidly.

H&Q played an important role in the company's success by providing capital early in the company's life, when it needed funds to purchase property for retail outlets. Once the company was ready for a public issue of equity in 1997, H&Q worked with it to structure the deal so it would be acceptable to foreign investors. In this case the process was complicated by poor market conditions generally, as well as the implications that arise from legal restrictions on foreign ownership of property in the Philippines. The result was the issuance of warrants, rather than shares, with investors accepting the risk that legal changes would occur before conversion of the warrants into shares was accomplished. H&Q's international experience in structuring public issues and its experience working with investment bankers was an important part of this process.

Conclusions

In 1989 IFC entered into the first of a series of venture capital fund investments in the Philippines. Those investments were expected to develop venture capital into a viable and important source of finance for small and medium-scale enterprises. Venture capital had not yet been successfully established in the country, and there was considerable risk associated with the first of those investments. The choice of an internationally experienced fund manager proved to be wise, and that fund did remarkably well. The success of the first fund and the experience it provided to H&Q then led to a second fund and the establishment of an entire industry.

The funds managed by H&Q in the Philippines have had a considerable effect on the Filipino economy. First, they have provided \$31 million in equity capital to 36 young and relatively small companies, permitting many of those companies to thrive and provide employment for thousands of Filipino workers. Second, their experience has led the way for a larger venture capital industry to take hold and flourish. Third, the experience gained through the funds has provided the fund managers with market experience that they will continue to apply to their investment activities. Fourth, the fund managers have played an important role in advising their companies on strategy and management, thereby increasing their chances for success. And fifth, the funds have taken eleven companies public, two internationally, which is a boost for both the companies involved and the local capital markets.

1. Technically, venture capital funds are a subset of private equity funds. But because they are generally much smaller than the large private equity funds that IFC has financed and because IFC has invested in so many venture capital funds, they are treated separately here.

5 ZIMBABWE: INTERFRESH LIMITED

Lawrence Bouton

Interfresh Limited produces, processes, and markets horticultural products for both the local and the export markets. The company's commercial success has helped to expand Zimbabwe's horticultural sector by providing a vital link between the farm and the market for fruits and vegetables. From its inception, the company has been instrumental in the encouragement, development, and growth of the horticultural industry in Zimbabwe.

The company has also helped to transform this area into one of Zimbabwe's more dynamic export sectors. Among the most important factors for the supply of fresh produce to the export market is the strength of the local market distribution network. Since only a small portion of a crop is usually suitable for the quality-conscious export market, farmers are willing to grow a crop only if they can market the remainder of their produce to a local market. By supplying both local and export markets, Interfresh has encouraged horticultural exports through its ability to purchase and market the farmer's entire crop.

IFC helped Interfresh increase its role in horticulture by helping fund the company's expansion and diversification efforts. Without IFC, it is unlikely that the company could have undertaken its expansion and remained financially viable. The company's recent expansion increased profits, with sales nearly tripling in real terms over a four-year period. Furthermore, the company's financial success has enabled it to transform itself from a closely held family firm to one that is publicly traded. While the most significant development has been its role in strengthening the link between farmers and the market, the company has also had a positive effect on the living standards of its rapidly growing work force.

Agriculture in Zimbabwe

Agriculture plays a central economic and social role in Zimbabwe, although it accounts for only about a fifth of GDP. The sector provides employment and livelihood for the majority of the population, provides raw materials that form the basis for nearly half of manufactured production, and accounts for more than half of the country's merchandise exports.

The sector's importance was highlighted during two recent droughts. The collapse of rain-fed agricultural production had major negative repercussions for the country's balance of payments, the government's fiscal position, inflation, and GDP.

Until the early 1990s, Zimbabwe's agricultural strategy essentially looked inward, with market and price controls geared toward attaining basic food self-sufficiency. Economic reforms pursued under the country's structural adjustment program have done away with many of the country's restrictive exchange rate, trade, and agricultural policies and have increased incentives for market-driven patterns of agricultural production.

The horticultural sector has been among the main beneficiaries of the country's reform efforts. Liberalization of the economy has allowed access to seeds, modern technology, specialized irrigation equipment, and machinery. Despite the two crippling droughts, horticultural production and exports have increased substantially over the past eight years. The fact that the horticultural sector has become well established owes much to the infrastructure and the local and export markets developed by distributors such as Interfresh and their ability to handle the ever-increasing volumes of fresh Zimbabwean produce.

Interfresh Limited

Interfresh was founded as a family concern in Zimbabwe (then Southern Rhodesia) in 1953 under the name Eight Acres (Private) Ltd. The company initially concentrated on the ripening and distribution of bananas grown on the family's farms in Mozambique. Soon it changed its name to Wholesale Fruiterers (Private) Ltd. and began to market a wide variety of imported fruits and vegetables.

In 1965 the white minority government opted for a unilateral declaration of independence from the United Kingdom, which reacted by imposing bilateral economic sanctions and sponsoring mandatory UN economic sanctions. Initially selective, the UN sanctions were made comprehensive in 1968. With imports into the country severely curtailed, the focus of the company turned inward to encourage local production of fresh produce. As the only one of its kind, the company received produce daily from farmers throughout the country.

Over the next 25 years, the company grew substantially. It acquired additional warehousing and office facilities in 1970. Around 1990, with liberalization of the economy and continued growth in domestic and international demand for fresh produce, those premises became inadequate. Responding to government incentives to develop growth-point areas, the company in 1990 established additional warehouse facilities on a three-acre site in Chitungwiza. Around this time, the company changed its name to Interfresh (Private) Ltd. to capitalize on the image of freshness of its produce. The company continued to be family-owned, with its shares held in equal portion by three units within the family.

Quickly, however, the company again reached capacity in warehouse and cold storage space. In 1993 it acquired and developed a nine-acre industrial site in Graniteside capable of sustaining future growth. Given the high cost and scarcity of long-term domestic funds, the company sought financing from IFC. The total cost of the project was \$4.8 million.¹ IFC provided a loan of \$2.4 million with a term of 7.5 years and a grace period of 1.5 years. With its debt denominated in U.S. dollars and the bulk of its sales in local currency, Interfresh secured a forward contract to cover itself against devaluation of the Zimbabwean dollar. The project was completed and operational in the beginning of 1995. At the same time, Interfresh registered as a freight forwarder with the International Air Transport Association (IATA), allowing the company to book space on cargo carriers and receive an automatic 5 percent commission.

Two years later, in 1995, the company diversified by developing an export-oriented vegetable dehydration facility. Completed in 1997, the \$3.6 million project was established under the name Fresca Holdings as a 50/50 joint venture with a Dutch firm. To finance the project and to expand and improve its existing distribution and storage infrastructure, the company issued a private placement of shares to institutional investors. IFC supported the investment by purchasing 12.5 percent of the offered shares for \$1.66 million.

Interfresh's main business has historically been in the local market. Although this market has been growing, the pace of growth was slower than the company desired. As a result, the company began to shift its focus toward the faster growing, more quality-conscious European market. To ensure continuity and quality of produce for the export market, particularly the British and European supermarket chains, the company decided in early 1997 to move into farming. It acquired the assets of Utopia Fresh Exports and took over the leases for Hopedale Farms. Utopia's farms comprise some 460 acres, two dams, a packing house, and, most important, accreditation from the European Union (EU). The purchase was financed by listing company shares on the Zimbabwe Stock Exchange. To reflect its publicly held status, the company's name was changed slightly, to Interfresh Limited.

Continuing its strategy of backward integration into the supply side, the company established Doma Packers, a 50/50 joint venture with a group of producers, at the end of 1997. The primary aim of this venture is to attain approved supplier status for the supermarket trade in the European

Union. The packing house is designed in accordance with specifications and requirements set out by supermarket chains in the United Kingdom and by the Food Safety Act of the EU.

At the end of 1997, IFC sold half of its shareholding in Interfresh, realizing a significant capital gain. IFC now holds 4.75 percent of the company. The family's holding has been considerably diluted, to about 40 percent of the company's shares, with the remaining shares held primarily by long-term passive investors.

IFC's Role

At the time of IFC's first investment in Interfresh, access to foreign exchange in Zimbabwe was still constrained by government trade and exchange rate policies. Though partially liberalized by 1993, the export retention plan allowed exporters to keep only a small fraction of their export earnings for importation of intermediate inputs and capital goods. Importation required observance of a number of bureaucratic procedures; obtaining import licenses was one. Though the government supported Interfresh's expansion efforts, it was IFC's loan—by providing the necessary foreign exchange—that enabled the company to import essential cold storage and refrigeration equipment. Toward the end of 1994, the need to obtain import licenses was removed, and exporters are now allowed to retain foreign exchange earnings.

Another crucial element in IFC's first investment was the provision of financing at terms and maturities unavailable in Zimbabwe. Controls on interest rates, which had kept nominal rates low, were relaxed starting in 1991. The government's tight monetary policy—part of its structural adjustment program—led to a sharp increase in commercial bank lending rates, with the result that real interest rates were driven to very high levels.

In addition to providing needed financing, IFC's subsequent equity investment played an important role in the success of the company's private placement. This initial placement helped transform Interfresh from a family-owned and -managed business to a transparent and publicly held company that is accountable to outside shareholders.

Project Description and Performance

As produce is received by Interfresh at its warehouses, it is sorted and graded. High-quality items are processed for export, while lower but acceptable grades are processed for the local market. Processing of this produce is relatively simple—it is washed, trimmed, and cleaned by hand before packing. In some cases, packages are prelabeled for retail outlets through which items will be sold to ultimate consumers. Because most items are highly perishable, they must be refrigerated in the company's cold-storage facilities after being received from the farms and are distributed in the company's refrigerated trucks.

With narrow margins, achieving a sizable volume is an important element of financial success. Inadequate warehouse and cold-storage space is a significant constraint to achieving this volume. As noted, in 1993 the company ran up against this constraint and decided to increase warehouse and cold-storage capacity by developing its Graniteside site. Furthermore, the company's existing refrigeration equipment was old and out of date. For efficiency, the short- and long-term storage facilities needed up-to-date equipment.

The project involved construction of a new 14,000-square-meter warehouse, equipped with modern cold-storage and prepackaging equipment. The new structure increased capacity by roughly 300 percent. In addition to the warehouse, a large administration block, a canteen, washroom facilities, and a 1,000-square-meter workshop were built. The workshop area contained working bays for servicing and repairing the company's commercial vehicles. Interfresh also refurbished its original Abercorn warehouse facility, focusing its operations on the export market. Cold-storage facilities were enhanced, and the prepacking area was modified to

allow it to operate under controlled temperature. A system of rollers was installed, allowing the facility to handle air-freight pallets. Modifications also permitted the facility to be hygienically washed down on a regular basis, ensuring that waste did not contaminate any of the fresh produce. The upgrade was necessary to meet full EU sanitary specifications, required before European buyers would make long-term commitments to purchase fresh produce from Interfresh.

IFC's second project, the establishment of Interfresh's vegetable dehydration joint venture, diversified the company and expanded its export activity. Under the joint venture, Interfresh provides the local network that handles the procurement of seed, contracting of crops, and distribution of products, while the Dutch partner provides technical know-how and the marketing channels for the finished products.

The plant, procured second-hand from South Africa, currently has one dehydration line. Its production capacity is 1,800 metric tons of dry produce a year, which equals 35,000 tons of fresh produce. The plant is the first of its kind in Zimbabwe and one of only two vegetable dehydration plants in Africa.

Ten different crops are processed in the dehydration plant. The biggest in terms of volume are bell peppers, tomatoes, leeks, and onions. In order to minimize handling of fresh produce, farmers deliver it to the factory in large bulk bins supplied by Fresca. Once received, produce is weighed and graded and placed immediately into cold storage. Normally, all produce is processed within 24 hours.

From storage, produce is moved by conveyor belt to the prewash area. It then passes along an inspection belt. If the produce is the wrong color, too small, or diseased, it is removed and thrown away. The product then moves to the cutting section, where it passes through a large hopper and is cut to appropriate size. From the cutting section, it enters the drying section. Dryers blow hot air over the produce, removing about 95 percent of its water content. Once drying has been completed, the product is packed into large plastic bags, which are placed in cardboard boxes which, in turn, are packed into containers and shipped by sea to the clients.

Between 1993, the year Interfresh began its expansion, and 1998, Interfresh managed to nearly triple its total sales volume in real terms. This translates into a real increase in turnover of more than 20 percent a year. With commodity prices unfavorable, the large increase in sales has been achieved through increased volume, particularly on the export side, made possible by the company's new warehouse and storage facilities. A significant portion of the increased volume was also attributable to the company's new business areas, namely the dehydration factory and the farming operations. Over this time, the company has continued to operate profitably, with profits increasing from about 1 percent of turnover in fiscal 1994 to more than 7 percent of turnover in fiscal 1998. The company has increasingly financed its operations with equity. The debt-to-equity ratio is roughly 1:4, down from 1.3:1 in fiscal 1995. Historical financial results and balance sheets of the Interfresh group are shown in the Annex tables.

The Market

The fruit and vegetable industry in Zimbabwe has formal and informal sectors. The informal sector is generally supplied by small-scale communal farmers, although commercial packers such as Interfresh will sometimes supply items of secondary quality to this market. Outlets through which the informal sector markets its output range from stands erected by communal farmers at the farm gates to permanent stalls provided to independent traders by city authorities around the country. The informal outlets usually limit their activities to their communities and carry a small variety of fresh produce. Nonetheless, these outlets represent a substantial portion of the fresh produce trade; it is estimated that they market between 40 percent and 50 percent of all fruits and vegetables produced in Zimbabwe.

The markets in which commercial packers and wholesalers generally operate are part of the organized formal sector. This sector is generally supplied by larger commercial farms and primarily packs and distributes produce to domestic retail outlets and the export market. Interfresh has managed to arrange with a large number of commercial growers for the right to market their produce, both the select quality for export and the first grade for local markets. Smaller communal farmers, lacking their own transportation capability, have not figured predominantly in Interfresh's activities. Most produce handled by Interfresh is purchased directly from the farmers.

For the local market, Interfresh packs under a variety of private labels for major supermarkets and chain stores in Zimbabwe—for example, TM Supermarket and Spar Fresh. Interfresh employees act as store assistants for fruits and vegetables in these outlets, stocking shelves and serving customers. Interfresh also packs for major restaurants and hotels, government establishments, private schools, and hospitals. Very quickly Interfresh has become the major commercial distributor of fruit and vegetables, with an estimated 45 percent share of the formal market.

For exports, Interfresh has developed marketing relations with major traders in Europe who supply directly to EU supermarket chains. Since the export market is concerned with quality and standards, the company is selective about its growers. The need to control input and output quality is also one reason the company decided to acquire its own farm. Although the range of exports is varied, a majority of the company's export earnings is accounted for by gooseberries, mange-tout, sugar snaps, and passion fruit. Interfresh exports, mostly to the European Union, now contribute about 40 percent to the company's total sales, up from 22 percent in 1994. The company enjoys a competitive advantage derived from its ability to supply export markets during the off-season. Low labor costs also allow the company to satisfy the demand for prepacked—trimmed, cleaned, and packed in small baskets—fruits and vegetables. For fresh produce, however, this advantage is somewhat offset by the high cost of airfreight—in some cases as much as 60 percent of the final value of the product. For dehydrated vegetables, shipped at lower cost by sea, the company can take better advantage of its low-cost producer status.

In general, packers operate on gross margins of between 15 percent and 25 percent for domestic sales, depending on the retail customer. The highest margin is earned on sales through supermarkets, the lowest from sales to traders in the informal market. Gross margins on exports are, at around 10 percent, generally more modest.

Development Impacts

Employment at Interfresh has increased dramatically over the past four years. When the company first approached IFC in 1993, it employed 503 people at its two branches. By mid-1998, employment at Interfresh had increased more than fivefold, with more than 2,760 employed at its five branches, two farms, and two joint ventures. The original 1993 expansion plans had envisioned only a 50 percent increase in employment.

Employees

The vast majority of employees at Interfresh—about 2,510—work for hourly wages, while 250 are salaried staff members. Of the wage workers, some 1,560 are classified as agricultural workers employed at Interfresh farms. Most salaried staff members are classified as permanent, while the wage staff is usually on contract status. Permanent workers tend to be managers and skilled employees. Contract workers who have remained in continuous employment with the company for more than one year are granted permanent status. Most of these workers, however, remain employed on a seasonal basis. In a country where large racial income disparity remains, an increasing number of blacks at Interfresh have been promoted to higher paying senior management levels.

Wages

Both farm and nonfarm wages at Interfresh are determined annually through nationwide collective bargaining agreements. Nonfarm Interfresh employees are paid commercial sector wages, which are about twice farm wages—the alternative source of employment for most of Interfresh's labor force. For industrial relations purposes, Interfresh anticipates the mid-year agreement by increasing its own staff's wages and salaries in the spring. If it underestimates the nationwide wage increase, the company makes up the difference. If it overestimates the increase, its workers are the beneficiaries. This, along with the benefits described below, may explain why there have been no work stoppages at Interfresh.

As controlled by government regulations, every employee is expected to work a minimum 45-hour week, including Saturdays. Overtime, at 1.5 times normal wages, is paid to hourly-wage staff when necessitated by the volume of work. Overtime payments are not normally paid to salaried staff.

Benefits

In addition to wages, the company operates a quarterly bonus plan for all staff members based on the company's financial performance. Bonuses are institutionalized through a checklist measuring individual job performance. Interfresh's bonus plan has in recent years effectively doubled the monthly income of hourly-wage workers. Monetary bonuses are also given to workers for every 5 years of service beyond 10 years. As an additional bonus, before Interfresh went public, employees had the option to purchase company stock at a reduced price. Employees have since had the opportunity to purchase additional shares from the company.

Salaried workers at Interfresh receive a monthly fruit and vegetable allowance equivalent to between 13 and 18 percent of monthly salary at the lower grade ranges and 6 to 8 percent of earnings at more senior grades. Morning tea is available for all workers without charge, while lunch is offered at a subsidized rate through company canteens. The company has also made sporting facilities available to its employees and sponsors intercompany sporting competitions.

The company offers a variety of employee loan plans. The stop-order system is an internal form of savings and loans that is available to wage staff. Employees contribute to the plan and then, with certain limitations, can borrow against their contributions. The company has also established a death and welfare fund to assist staff in the event of death of a spouse or children and to assist the family in the event of an employee's death. Membership in this fund is open to permanent company employees. While employees do make a small monthly contribution to the fund, the majority of the contributions come from the company itself. The primary objective of the fund is to assist employees with funeral expenses, but staff members can also borrow small amounts from the fund at a subsidized interest rate. Subsidized short-term loans are available to staff members at the junior management level and above. Finally, the company's directors have authorized the implementation of a housing plan in which the company will provide mortgage guarantees to permanent staff members at the supervisory level and above. A similar program for automobile loans is being considered.

To supplement public social security (NSSA), the company has established a private defined contribution pension and life assurance plan for its permanent employees. Employees contribute 6 percent of their salaries, less NSSA contributions, while the company contributes an additional 6 percent. Workers may elect to receive either a lump-sum payment or a pension on retirement at the age of 60. The plan also provides insurance benefits in case of death or disability.

Several additional benefits are available uniquely to the company's farm workers. The company's stated policy is to provide them with decent housing, clean water, and washing facilities. When Interfresh acquired its two farms, it inherited an old, inadequate and, by objective measures, substandard housing stock. New houses are being constructed that are more spacious, have better ventilation, and are equipped with electricity. Workers receive a lighting allowance, a fuel

allowance, and, if they live away from the farm, a rent subsidy. The company also provides transportation to and from the farm for off-site staff.

Altogether, Interfresh's salaries, wages, and benefits amounted to about 11 percent of total expenses in fiscal 1998.

Training

With high unemployment, there is no shortage of unskilled labor in Zimbabwe. While the company's operations mainly do not require skilled workers, Interfresh has a policy of promoting from within as well as offering opportunities to its unskilled workers to upgrade their skills. Interfresh's new facility at Graniteside includes an in-house classroom for year-round job-related courses. Supervisors, for example, are given a supervisory skills course. Middle managers take courses related to industrial relations and assertiveness training. Additional courses are offered in the area of customer care, product knowledge, first aid, accident prevention, and personal and food hygiene. While courses are aimed at improving the skills required at Interfresh, the material offered can be valuable elsewhere.

At the junior management (supervisor) and higher levels, the company offers some funding for formal schooling if the training is deemed beneficial to the company. Funds for external training are also available to all staff members regardless of level. The company's annual internal and external training budget is about 4 percent of its total wage bill.

Linkages

Materials used in the construction of new facilities at Graniteside and the dehydration plant came mostly from local sources. At the new warehouse facility, only refrigeration equipment and panels for the cold rooms were purchased abroad. As noted, the dehydration plant was purchased secondhand from South Africa.

On a day-to-day basis, about 70 percent of Interfresh's produce is acquired through local supply contracts. Imported produce consists mainly of exotic fruit from neighboring countries. In addition to fruits and vegetables, the company uses various material inputs—such as plastic baskets and bags, cartons, and labels—directly in its cutting, cleaning, and packing operations. In the past, many of these items needed to be imported, but with the opening of the domestic market and the growing domestic demand by Interfresh and others, most of these materials are now supplied locally.

With its international contacts, Interfresh often acquires knowledge and expertise that can be passed on to local producers. In the case of the dehydration plant at Fresca, for example, all produce is supplied by growers within 150 kilometers of the factory on a contract basis. This enables Fresca to provide an efficient extension advisory service to its growers. Fresca's horticulturists visit growers to advise them on crop growth, cultivation, and technology, as well as what and when to harvest. For similar reasons, horticulturists are also on Interfresh's staff outside of the dehydration operation.

As a new listing on the Zimbabwean stock market, Interfresh has furthered the development of the local capital market. Interfresh's stock has been well received and has expanded local investors' options for diversification.

Taxes

At the retail level in Zimbabwe, fruits and vegetables have no indirect taxes placed on them, nor are there tariffs or import restrictions on the importation of those products. There are, however, numerous direct company taxes that are applied to Interfresh's operations. The corporate-profit tax rate is 38.75 percent. On top of the profit tax, the company is charged a development levy (formerly the drought levy) of 5 percent of its income tax liabilities. Because the dehydration plant is located in an export-processing zone, its operations are taxed at a lower rate (15 percent) and are exempt from the profit tax for five years. Interfresh also garners certain tax advantages, such

as tax allowances and reduced tax rates, from its earlier investment in a growth-point area. As a result of these tax benefits, the company's effective tax rate has averaged about 5.5 percent over the past four years.

Interfresh regularly declares dividends for its shareholders. For companies listed on the Zimbabwe Stock Exchange, the withholding tax for dividends is 15 percent. In addition to income taxes paid by employees—most employees fall into the 20–25 percent tax bracket—the company has several taxes associated with its wage bill. There is a manpower-training levy of 1 percent and a standards levy of 0.5 percent of the wage bill. The company is required to contribute 3 percent of a worker's wages to NSSA, up to a payment of \$4,000 for each employee every year. The annual earnings of the private pension plan set up by Interfresh are also taxed (at 15 percent).

Environment, Health, and Safety

Direct environmental effects of Interfresh's operations are minor. The main byproducts of the company's activities that are of environmental concern are liquid effluents and solid wastes. The company uses a large amount of water to clean incoming fruits and vegetables and to control conditions in its cold storage rooms. It uses no chemicals for washing and treating its products. The company's water is drawn from its own wells, drilled near its warehousing facilities. On the farms, water is obtained from the farms' own reservoirs and delivered through an efficient drip irrigation system. After solid wastes are removed, the wastewater is either discharged into the sewer system or, in the case of Fresca's operations, recycled.

Solid wastes consist mainly of leaf and root cuttings and discarded fruits and vegetables. In addition to being biodegradable, solid waste has valuable alternative uses. Large fruit and vegetable matter is given away for use as cattle feed, while fine fruit and vegetable matter and soil from the wastewater separators are used in land fertilization.

The belt drying system at Fresca's dehydration processing plant uses less energy than a conventional drying system. While the fuel used at the facility is local Zimbabwean coal, which has a relatively high sulfur content, the plant's boiler system is equipped with cyclones and scrubbers to clean flue gases.

Because the company's line of business is fresh food, worker health and hygiene are of paramount importance. All prospective employees are given a health exam to certify that they are free of infectious diseases. Employees who become ill are not allowed near fresh produce. Samples are frequently taken to determine the microbiological details of the produce.

The major health concern in Zimbabwe today is AIDS. Zimbabwe has one of the highest infection rates in the world, with some 25 percent of the population infected with the HIV virus (40 percent in urban areas). At Interfresh three to five workers die each month as a result of AIDS. While the government was slow to respond to the epidemic, the company has been much more timely in launching its own AIDS awareness campaign. The basic objective of the campaign is to provide employees with information about the spread and prevention of HIV and other sexually transmitted diseases. The company has also created peer groups as a support system for Interfresh employees infected with the HIV virus. By law, these employees cannot be dismissed. To minimize the risks, as well as the cost of wear on personal clothing, the company provides protective clothing to its employees.

Conclusion

Interfresh has developed rapidly into the most important formal-sector distributor of fresh horticultural produce in Zimbabwe. The company's marketing leadership has been instrumental in expanding and diversifying the Zimbabwean export sector. Without the intermediation of companies such as Interfresh, individual farmers would be unwilling to grow produce for this quality-conscious market.

The company's financial success has enabled it to contribute tax revenues to a government struggling to balance its fiscal accounts. This financial success has also enabled the company to meet its capital requirements by transforming itself from a closed, insular, family business to one that is transparent, accountable, and publicly traded.

In a country where unemployment has reached staggering levels, the company has provided jobs—increasing employment at the company from 500 to more than 2,700 workers in just four years. It has also shown a commitment to increasing the living standards of its work force by providing an increasing range of job-related benefits. Black members of the staff are given the opportunity to move into higher paying jobs with increased responsibility in managing the company. The company's linkages to the domestic economy have also grown as it has increasingly acquired its packaging inputs from local sources.

While Zimbabwe's current economic outlook remains uncertain, the company is well placed to take advantage of the depreciating Zimbabwean dollar. In all likelihood, the company will continue to grow, both organically and through acquisition, ensuring its continued financial success and development contribution.

1. Monetary units are U.S. dollars unless otherwise indicated.

Annex Table 5.1 Profit and Loss Accounts, Interfresh Group, Fiscal 1995–98^a
(Z\$000)

<i>Account</i>	<i>FY95</i>	<i>FY96</i>	<i>FY97</i>	<i>FY98</i>
Turnover	115,535	176,255	249,747	369,617
Operating cost	107,843	167,425	234,277	341,002
Profit before taxation	7,692	8,830	15,470	28,615
Taxation	667	818	543	421
Profit after taxation	7,025	8,012	14,927	28,834

a. Fiscal year ends March 31.

Annex Table 5.2 Abridged Balance Sheet, Interfresh Group, Fiscal 1995–98
(Z\$000)

<i>Account</i>	<i>FY95</i>	<i>FY96</i>	<i>FY97</i>	<i>FY98</i>
Share capital	241	16,000	16,000	63,438
Reserves	20,677	50,315	63,972	94,097
Shareholders' funds	20,918	66,315	79,972	157,535
Minority interest	—	1	5,001	14,740
Shareholders' loans	426	488	250	250
Short-term loans	—	27,000	—	—
Long-term liabilities	20,511	21,796	18,596	22,148
Total	41,855	88,600	130,819	194,673
Fixed assets	42,278	66,118	119,681	163,362
Current assets	15,732	41,479	41,662	75,939
Total assets	58,010	107,597	161,343	243,820
Other liabilities	(16,155)	(18,997)	(30,524)	(49,147)
Net assets	41,855	88,600	130,819	194,673

Source: Interfresh annual reports.

THE PRIVATE SECTOR AND DEVELOPMENT: FIVE CASE STUDIES

RESULTS ON THE GROUND



ARGENTINA

INDIA

RUSSIA

THE PHILIPPINES

ZIMBABWE