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PERFORMANCE OF DEVELOPMENT FINANCE
INSTITUTIONS IN KENYA: 1964-89

By

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PERFORMANCE OF DEVELOPMENT FINANCE INSTITUTIONS
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Abstract

The paper examines the performance of eight parastatals which share the goal of fostering development of one or more sectors of the economy primarily via equity participation in joint ventures with the private sector, or via loan schemes. The firms examined include ICDC, DFCK, IDB, KTDC, ADC, KIE, NCC and KNTC. The paper examines the terms on which the parastatals have made finance available to their clients, their managerial efficiency, and their profitability. The performance of manufacturing firms which are subsidiaries of the parastatal firms is compared with performance of purely private manufacturing firms. The paper shows that the performance of the firms has varied widely, but several of the firms have made important positive contributions to the Kenyan capital market, allocating their investment funds to projects which are or average commercially viable and economically competitive.

I. Introduction

This paper will describe and evaluate the performance of eight public enterprises which share the goal of fostering development of one or more sectors of the economy. These eight parastatals, termed Development Finance Institutions (DFIs), are designed primarily to foster development in the private sector. The fact that the DFIs' main goal is to foster development in the private sector makes evaluation of their performance difficult. To arrive at a complete evaluation it would be necessary to examine the firms they have aided, and evaluate their performance. We will take a two-fold approach.

In section II below we describe the DFIs and their role in the capital markets of Kenya. In section III we examine the performance of the DFIs per se. In section IIIA we examine the extent to which DFIs have subsidized the firms in which they invest by offering long term finance on concessionary terms. In section IIIB we examine efficiency. In section IIIC we examine the record of returns to DFIs shareholders.

In section IV we turn to an evaluation of some of the subsidiaries of the DFIs, to examine how successful they have been at fostering development of the manufacturing sector. We have a fairly rich data source for examining parastatal manufacturing subsidiaries. (The word subsidiary will be used to

include investments in which the DFIs hold either a minority or a majority of shares.) Unfortunately we have no data on the performance record in other sectors.

II. Description

The DFIs have used diverse tools in their common goal of fostering development, which will complicate comparison of performance indicators. In Table 1 we list the firms along with their year of incorporation and their major tools. All eight parastatals offer credit to private firms in the sector in which they operate. Five of the firms make equity investments in subsidiaries as a way of encouraging development in their sector. (These five will be referred to below as the holding companies.) Three of the firms offer extension services to firms in their sectors, and the others offer management services. Other special activities are unique to one firm. The ADC operates state farms and manages private ones on contract. The KNTC has a monopoly on distribution of certain goods within the country, and grants licenses to agents to trade in these goods. The KIE operates industrial estates for small industrial enterprises. With the exception of ADC's farming activities, all of the major activities are geared to encouraging private sector activity. Three of the firms have aided only African entrepreneurs, while the others have also encouraged foreign investment.

TABLE 1. DEVELOPMENT FINANCE CORPORATIONS

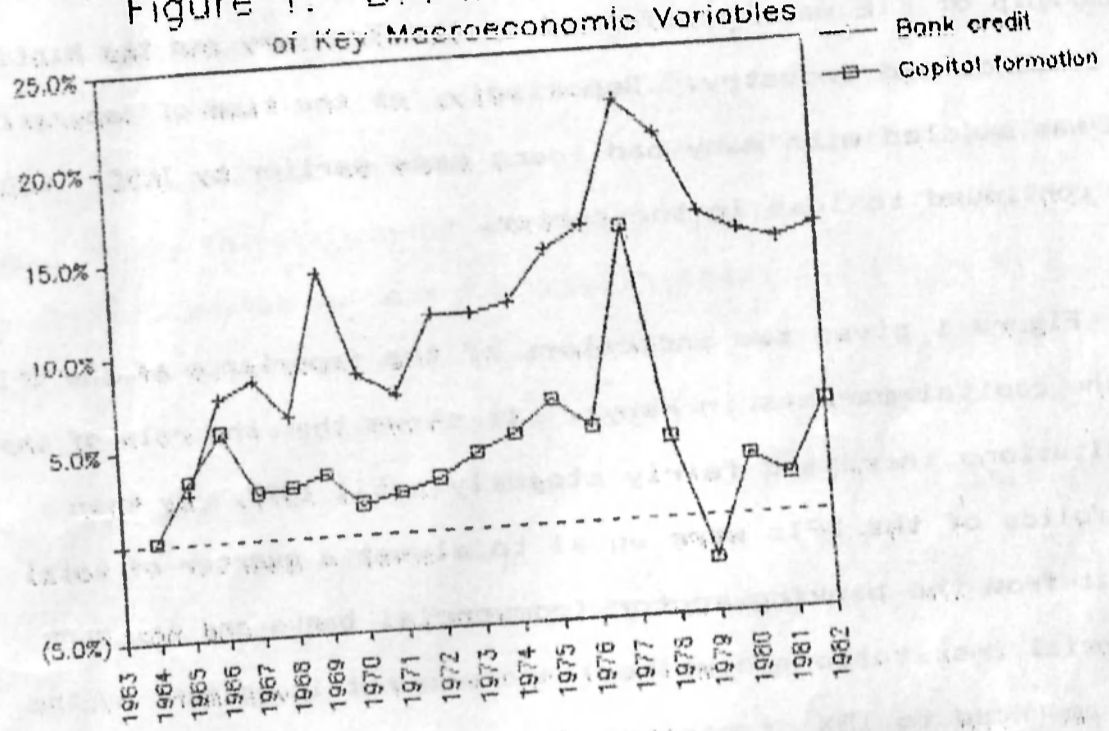
FIRM	YEAR OF INCORP.	MAJOR ACTIVITIES
Agricultural Dev. Corp. (ADC)	1964	Management of state and private farms. Equity and loans in agro-industrial enterprises.
Development Finance Co. of Kenya (DFCK)	1963	Equity and loans in medium and large scale projects, mostly manufacturing. Loans to small scale projects.
Industrial & Commercial Dev. Corp (ICDC)	1954	Equity and loans in medium and large scale industrial and commercial projects. Loans for small scale projects.
Industrial Development Bank (IDB)	1973	Equity & loans in medium and large scale industrial projects.
Kenya Industrial Estates (KIE)	1967	Operates industrial estates throughout country. Loans to small industrial projects. Business extension to small projects.
Kenya National Trading Corp (KNTC)	1965	Licenses traders in certain commodities. Loans to traders. Operates depots for distribution of certain commodities.
Kenya Tourist Development Corp. (KTDC)	1965	Equity and loans in tourism projects. Hotel management.
National Construction Corporation (NCC)	1966	Loans and business extension to small African construction firms. Bids for projects for subcontracting to small African firms.

The chronology of the DFIs reveals a marked tendency toward organizational proliferation and duplication. The first DFI was the Industrial Development Corporation (IDC), started in 1954 to assist and encourage medium and large scale investment in the industrial sector. Around independence the IDC was changed to the Industrial and Commercial Development Corporation. Programs were started to lend to small and medium scale African entrepreneurs. Around the same time the Development Finance Company of Kenya was started with the goal of lending to medium and large scale industrial projects. ICDC held equity in DFCK, along with European foreign aid agencies as partners. From the beginning the missions of ICDC and DFCK overlapped in the area of medium and large scale projects. Later DFCK added small scale loans to its lending program, completing the duplication.

Again in 1973 the ICDC established a new subsidiary whose role would be equity and loan participation in medium and large scale industrial enterprises--this time the Industrial Development Bank. Again ICDC did not withdraw from direct participation in the sector. ICDC has functioned parallel to its subsidiary, the IDB, participating in many of the same projects.

There has also been redundancy in promotion of small scale enterprises. ICDC has a program of loaning to small scale commercial ventures, but at the same time it has a subsidiary, Kenya National Trading Corporation, which also has the same task.

Figure 1. DFI Investment as Share of Key Macroeconomic Variables



ICDC also loans to small enterprises for industrial, machinery and property loans. In addition to these loans ICDC, started a subsidiary in 1967, the Kenya Industrial Estates, which provided the same kind of loans to the same clientele. In 1978 the ownership of KIE was transferred to the Treasury and the Ministry of Commerce and Industry. Reportedly, at the time of separation, KIE was saddled with many bad loans made earlier by ICDC. ICDC has continued to loan in the sector.

Figure 1 gives two indicators of the importance of the DFIs in the capital markets in Kenya. It shows that the role of the institutions increased fairly steadily until 1977. By then portfolios of the DFIs were equal to almost a quarter of total credit from the banking sector (commercial banks and non-bank financial institutions combined) and new net investment by the DFIs amounted to 15% of capital formation in the "Enterprises and non-profit institutions" sector of the economy.

After the coffee boom the relative importance of the DFIs declined. The combined portfolio of the DFIs has hovered around 15% of banking sector credit and net investment by DFIs has been around 5% of capital formation.

The role of the DFIs has probably been crucial to the development of the sectors in which they participate. They are major sources of long term finance. Commercial banks provide

practically no term loans suitable for financing fixed capital investment (Paulson, page 24). The market for long term corporate debt is highly underdeveloped, with only six corporate debt instruments listed on the Nairobi Stock Exchange.

The Stock Exchange itself, dealing in equities, is slightly better developed, but the market has remained thin and in fact has actually declined in the past decade. It is not an attractive source of finance for new or fast growing companies which desire to retain most of their earnings for reinvestment. Because the market is so thin, stockholders cannot be sure of realizing the value of retained earnings when they sell their stocks, so equity prices seem to be set with respect to dividends only.

An example of this came to light recently in the case of the profitable Kulia Investments Ltd. The majority owners of this firm desire to retain substantial portions of its earnings (80% in 1985) for reinvestment, while the minority shareholders have pressed for higher dividends. The conflict of interest has become severe enough that the majority shareholders are willing to buy out the minority shareholders at prices two to four times recent market prices for the stock.

Eight other formerly publicly traded companies have exited the stock market since 1980, cutting the number of firms traded

from a high of 59 in 1968. Only two firms went public in recent years, Jubilee Insurance Ltd., in 1984 and Barclays PLC in 1986. Both firms are old and mature, so that the conflict over whether to retain earnings to finance rapid growth is less likely to be a problem. For new businesses or ones which are growing fast, the stock market has not provided an attractive source of investment.

Given the absence of other sources of long term credit, the DFIs' role has probably been crucial to the firms in which they have invested, especially those local firms who had no access to overseas borrowing.

The accounting conventions among parastatals make the interpretation of the accounts of the DFIs problematic. Equity investments are generally listed at cost. Subsequent profits or losses by DFI subsidiaries are not reflected in the DFIs' accounts, either in the income statement or in the balance sheet. It is not clear what bias this introduces. Some of the subsidiaries have been highly profitable and the value of the DFIs' shares far exceeds their cost. Other firms have suffered chronic losses, so that the value of the DFI shares is less than their cost, in some cases zero. Without tracking the accounts of the dozens of subsidiaries it is impossible to say the effect on the DFIs.

ICDC carries its investments at cost on the balance sheet, but in the notes to the accounts it gives the market value for investments in firms quoted on the stock exchange and the directors' valuations of total unquoted investments. The reported revaluations have exceeded cost, at least since the mid-70s. For example, in 1981 the directors' valuations exceeded cost by 61%. This suggests that the balance sheet has consistently understated the value of investments. Yet in 1978/79 the ICDC was required by the Auditor-General to make much larger provisions for losses than its directors had previously felt necessary, calling into question the direction of bias. Throughout this paper we will rely on the book values given for the portfolios, but reference will be made to other possible reinterpretations if the portfolio values are inaccurate.

III. Measures of performance of the DFIs per se

A. Terms on which DFIs invest

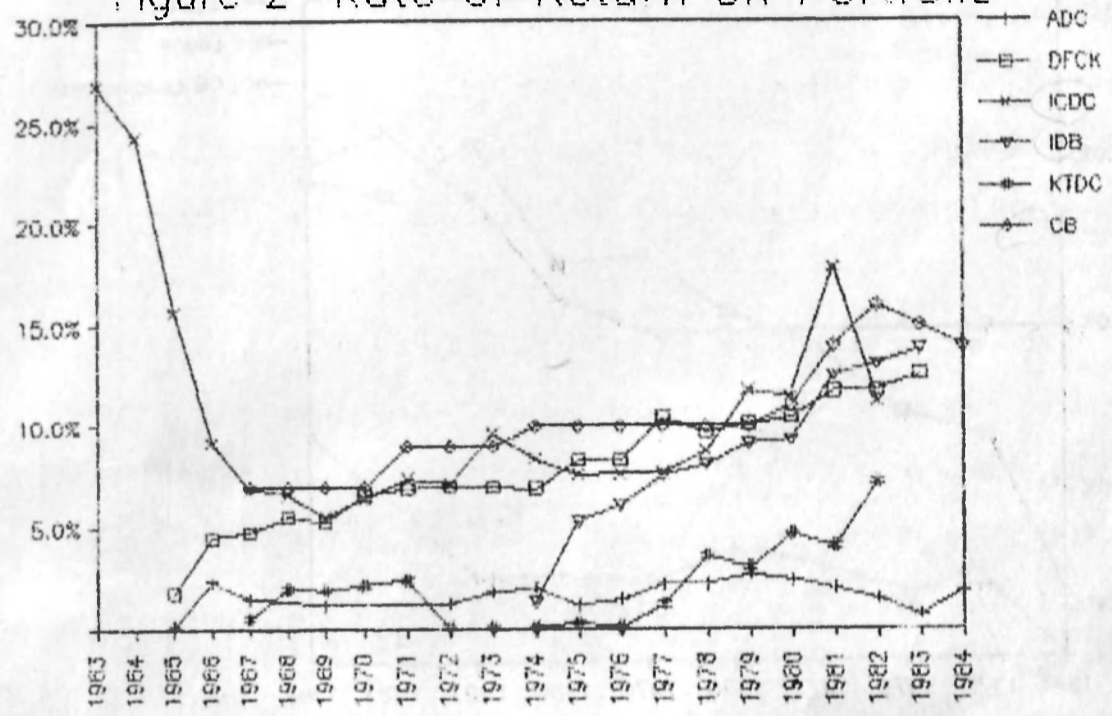
The role of the DFIs is to supply long-term capital in the form of loans or equity investments. The recipients of this finance constitute the consumers of DFI services. We will examine what rates of interest or dividends consumers have paid in return for the capital they have received from DFIs.

The available data on returns to the investments of the DFIs are presented in Figures 2 through 6. In Figure 2 we compare the average rate of return on the total investment portfolio for the five holding companies with the interest rate charged by commercial banks. To arrive at the rate of return we added interest and dividends receivable and divided by loans plus equity investments. Since Figure 2 shows only realized returns it probably understates the true returns on DFI investments.

Figure 2 shows that the rates of return on the portfolios of the five holding companies have varied considerably. The KTDC and ADC have had consistently low returns, though the KTDC's average return has risen steadily since 1976. The average rate received by ADC has never surpassed 5%.

The ICDC, IDB, and DFCK have all had average returns that were only slightly below the commercial bank lending rate in most years. In Figures 3 through 5 we examine this in more detail. Figure 3 shows that since 1977 the yield on IDB loans has nearly always equalled or exceeded commercial bank lending rates, but the yield on equity has been very low. On the other hand, Figure 4 shows a different pattern for ICDC. From 1966 to 1980 yields on both loans and equity approximated commercial lending rates. Since 1980 ICDC's yields on its loan portfolio have continued to approximate the commercial bank lending rate, while dividend yields have fallen off. Figure 5 shows an intermediate pattern

Figure 2 Rate of Return on Portfolio



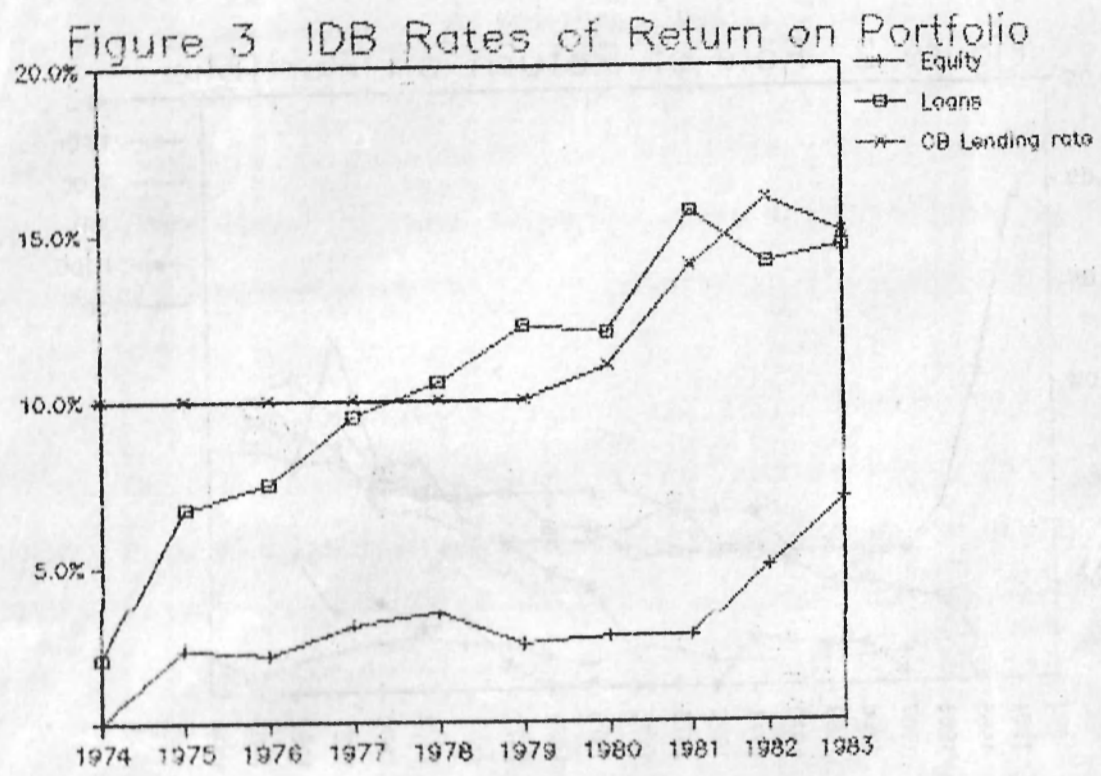
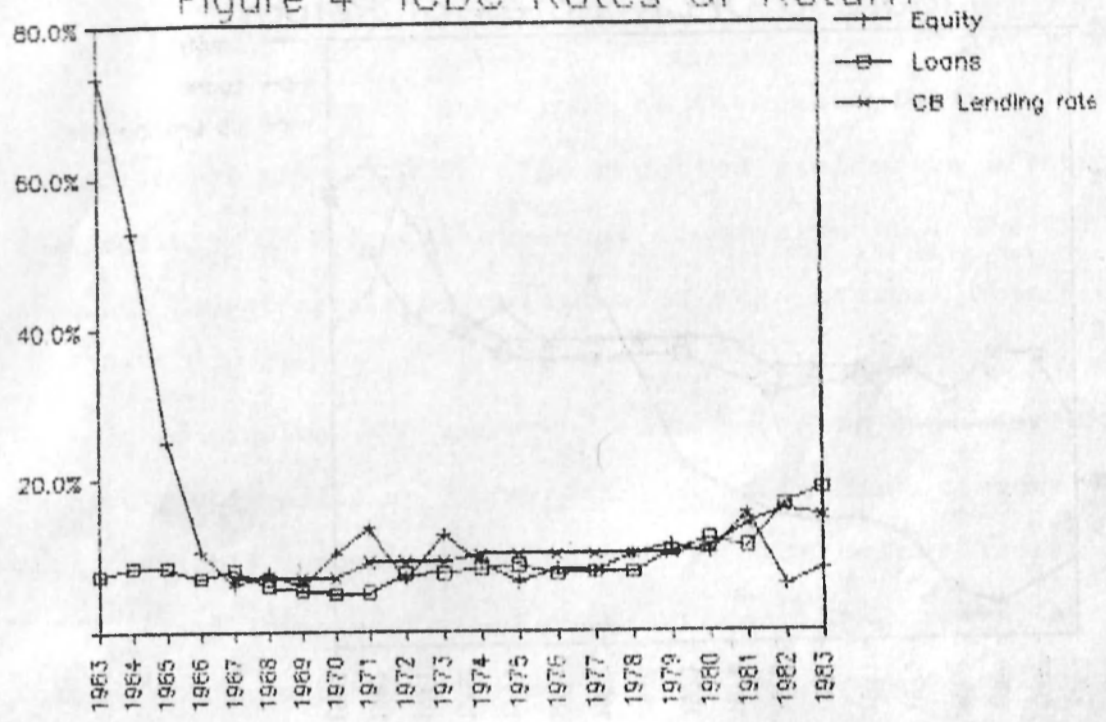
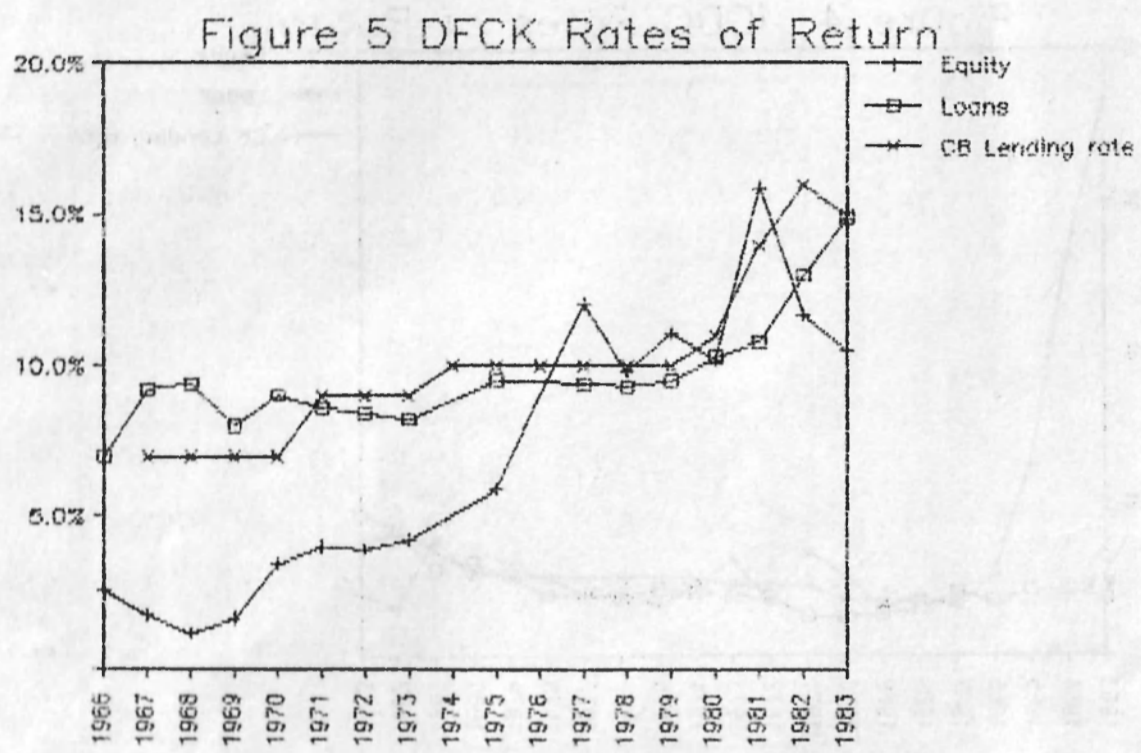


Figure 4 ICDC Rates of Return





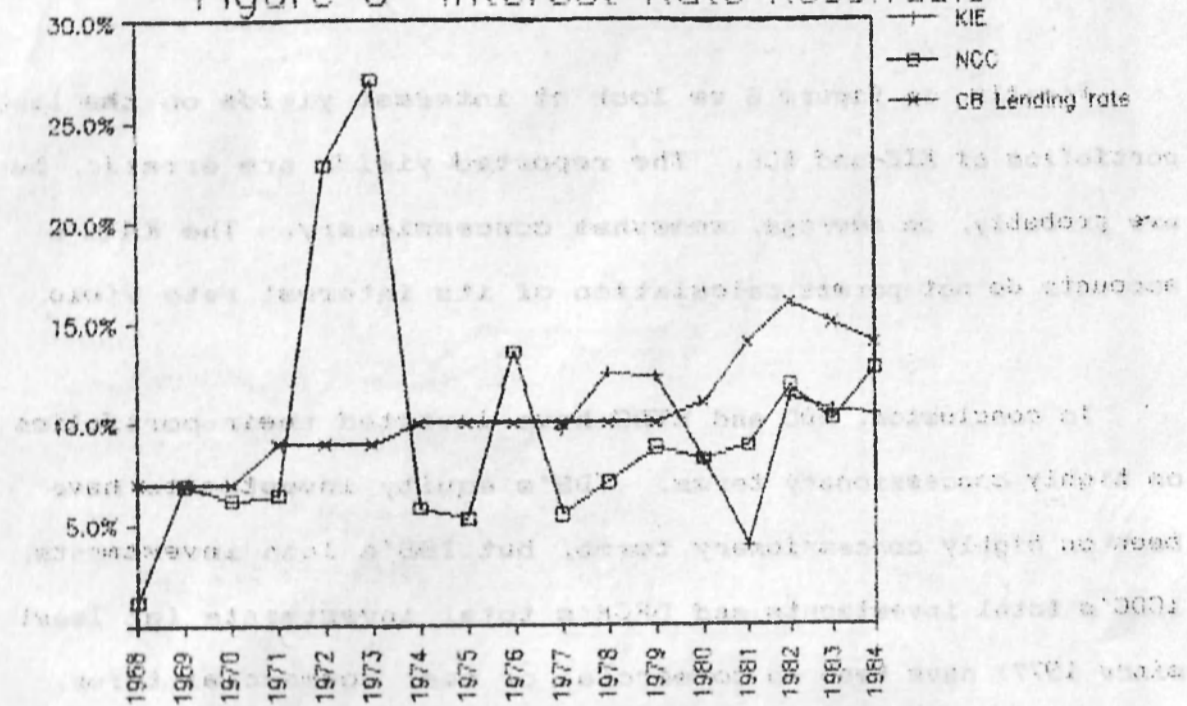
for DFCK. Its yield on loans has always approximated commercial bank lending rates. Its yield on equity started low and grew slowly, but from 1977 until 1980 was comparable with interest rates.

Finally, in Figure 6 we look at interest yields on the loan portfolios of KIE and NCC. The reported yields are erratic, but are probably, on average, somewhat concessionary. The KNTC's accounts do not permit calculation of its interest rate yield.

In conclusion, ADC and KTDC have invested their portfolios on highly concessionary terms. IDB's equity investments have been on highly concessionary terms, but IDB's loan investments, ICDC's total investments and DFCK's total investments (at least since 1977) have been on commercial or near commercial terms. Loans from KIE and NCC have been somewhat concessionary.

The figures reported in this section must be interpreted cautiously, particularly those for rates of return on equity. The problem arises because of the convention of recording equity investments at cost. The accounts of the DFIs only reflect dividend income from subsidiaries, excluding unrealized capital gains. The value of subsidiaries which have been consistently profitable far exceeds the historical cost at which they are carried on the DFI books. If these subsidiaries are earning reasonable rates of return on total capital invested, including

Figure 6 Interest Rate Receivable



retained earnings, their dividends can seem enormous compared with paid in capital. Thus the rates of return on equity would seem to be overstated. Yet unrealized capital gains deriving from earnings retention should also ideally be included, which means the reported values may not be overstated.

All of the DFI holding companies have made many poor equity investments. Even the ICDC, which has a fairly high average yield, has never received dividends from half its subsidiaries in any year, as shown in Table 2. The notes to the accounts of all of the holding companies reveal that some of their subsidiaries have just never taken off. Thus if any of the holding companies had avoided making these bad investments its overall results could have been dramatically better.

The DFIs don't routinely publish information on the decision making procedures behind their investments, but limited information indicates that a substantial number of the bad investments were made under specific instructions from Government. The ADC reported in their accounts for 1979/80 that 77% of total investments were made at the specific direction of the Minister of Agriculture, in firms which suffered large losses. Correspondence files in the Ministry of Finance reveal that in some cases the government did not comply with the ADC Act, which provides that where ADC undertakes such nonviable investments at government behest it should be reimbursed.

TABLE 2. ICDC RECORD OF INVESTMENTS & DIVIDENDS

Year	Number of Investments	Number paying Dividends
1968	9	1
1969	8	1
1970	31	9
1971	37	15
1972	41	15
1973	46	15
1974	50	18
1975	55	17
1976	56	20
1977	59	21
1978	59	24
1979	60	27
1980	59	26
1981	59	19

The KTDC portfolio has also largely been decided elsewhere than the KTDC. In reviewing its operations in 1971 the Treasury noted that "Investment decisions which should be made by KTDC are often made by the Ministry of Tourism and Wildlife or the Ministry of Finance and Planning instead." They went on to note that KTDC has been saddled with projects initiated by various ministries and that it had never refused to take over such a project. Contrary to the KTDC Act, KTDC was not compensated for unviable projects carried out at government behest.³

Some of ICDC's worst investments were also undertaken at the request, "explicit or implicit" of Government.⁴ The limited available information suggests that increased autonomy for the DFIs would probably have been associated with fewer loss making investments.

B. Efficiency

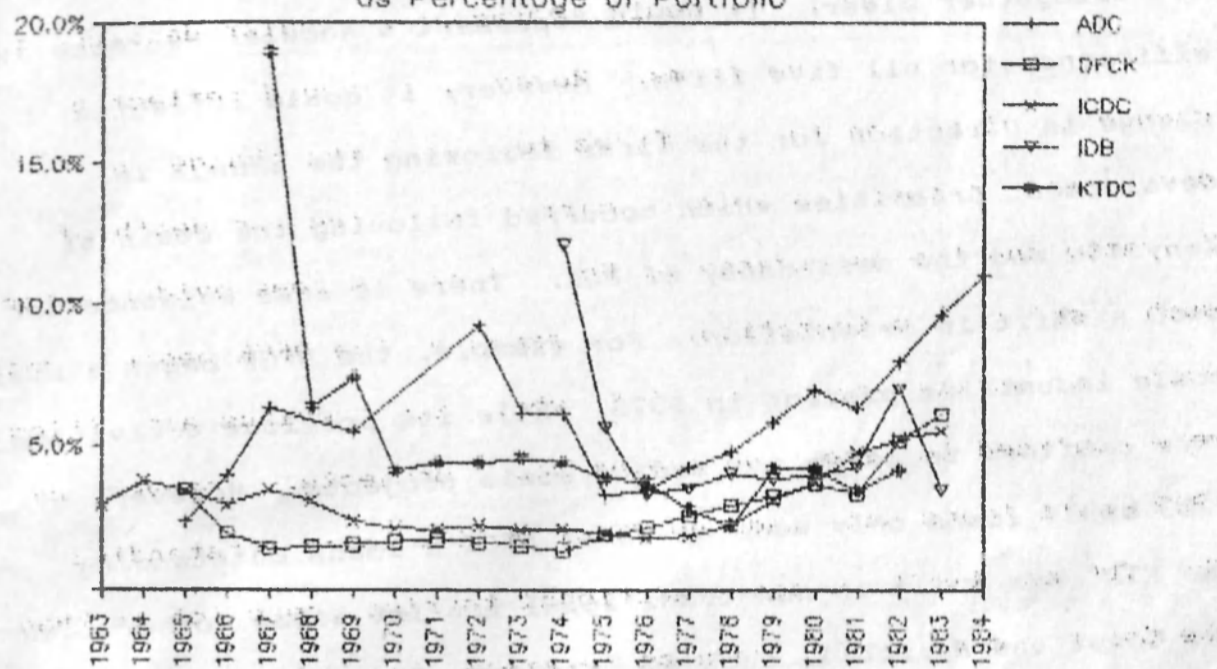
Efficiency is a difficult concept to measure in the DFI sector, since output is difficult to define. If one defines the mission of the DFIs as being to manage investment portfolios as efficiently as possible, one can measure efficiency by taking costs as a percentage of the portfolio, and this is the approach we have taken. To the extent that the mission of DFIs differs

from that stated, the measure will be a poor one. For example, if the goals of the DFIs include assisting small local entrepreneurs or enterprises located in rural areas, this would cause higher cost margins, but it is false to interpret this as lower efficiency.

The value of the reported measure is a matter of degree. It is clearly not valid for KIE, KNTC or NCC, whose missions are much broader than management of investment funds. For the ADC with its large scale farming operations it is possible because the direct costs of farming are excluded, making ADC comparable with the other holding companies.⁵ For ICDC, IDB, DFCK and KTDC, it is not a bad measure.

The data on cost margins is presented in Figure 7. The records of the five firms vary widely. DFCK and ICDC have performed best, with costs running about 2-3% of the portfolio from the early 60's to the late 70's. During that period the costs of the ADC and KTDC were approximately twice as high, and much more volatile. By 1977 the costs of the DFCK, IDB, ICDC and KTDC had converged to a fairly narrow band, with year to year fluctuations in the rankings. The ADC's costs remained markedly higher than all other firms. Since 1977 all 5 firms have experienced an upward trend in their costs. The average cost level for the four low cost firms doubled from 2.6% of the portfolio in 1977 to 5.4% by 1982, and the ADC's costs

Figure-7 Administrative Costs
as Percentage of Portfolio



approximately doubled as well.

The interpretation of this steep increase in cost levels is not altogether clear. It could represent a secular decrease in efficiency for all five firms. However, it could reflect a change in direction for the firms following the change in development priorities which occurred following the death of Kenyatta and the ascendancy of Moi. There is some evidence for such a shift in orientation. For example, the DFCK began a small scale industries project in 1978, while its previous activities were confined to large and medium scale projects. However, by 1983 small loans only made up 9% of DFCK's loans outstanding. The KTDC has built in non-traditional tourist areas (other than the Coast and Nairobi), such as Kakamega, Eldoret and Mt. Elgon.

Two other factors could explain the observed cost escalation. The measurement of efficiency depends on the valuation of the portfolio. If the value of the portfolio has been understated, and if the degree of understatement has grown over time, it would cause an escalation such as that shown. In Figure 8 we have recalculated the measure for ICDC, using the directors' valuation of equity investments. If their valuation is more accurate than book value, then most of ICDC's cost escalation from 1977 to 1981 disappears.

The second factor which could have contributed to the cost

escalation is the general deterioration in business conditions. From 1979 to 1983 the economy experienced several devaluations, foreign exchange rationing, a drought, and general recessionary conditions. These conditions caused raw materials shortages, power interruptions and low demand for the products of the holding companies' subsidiaries. Much of the holding companies' staff time was devoted to rescue and restructure of their most troubled subsidiaries, with a resulting increase in costs.⁶ This deterioration was seen above as a marked decline in returns on the equity portfolios of ICDC and DFCK. To interpret this increase in cost margins as a decrease in efficiency, if it was caused primarily by a hostile macro-economic environment would be misleading.

While it is impossible to sort out the degree of their influence, it seems likely that all these factors were at work. The DFIs probably turned toward investments which had higher supervision costs, problems with inflation accounting probably mean that the reported figures overstate the phenomenon. Macro-economic conditions have probably caused deterioration in performance of the DFIs' investments, causing increased supervision costs. And there may well have been a decrease in efficiency since the coffee boom.

Table 3 provides figures on administrative costs from DFIs in other African countries, for comparison with the data in

TABLE 3. ADMINISTRATIVE EXPENSES AS % OF AVERAGE TOTAL ASSETS

	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>EAST AFRICA</u>			
BDC/Botswana	4.7	3.7	3.8
LNDC/Lesotho	11.0	9.3	5.9
INDEBANK/Malawi			2.7
IBS/Sudan			3.8
TIB/Tanzania	1.4	0.9	0.8
TDFL/Tanzania			2.3
SOFIDE/Zaire			6.3
DBZ/Zambia		3.9	3.8
<u>WEST AFRICA</u>			
BCD/Cameroon	3.4	3.6	3.5
NIB/Ghana			2.9
BIDI/Ivory Coast	1.9	2.0	2.6
CCI/Ivory Coast	2.9	2.5	2.5
LBDI/Liberia	2.2	2.3	2.8
BMDC/Mauritania			5.1
BDRN/Niger			1.8
SOFISEDIT/Senegal	5.9	5.1	4.0
BND/Upper Volta			3.0

Source: David Gordon, "Development Finance Companies, State and Privately Owned," World Bank Staff Working Paper Number 578, 1983, page 49.

Figure 7. The Kenyan DFIs seem to be in line with DFIs elsewhere. The definitions used in Figure 7 and Table 3 differ somewhat, in a fashion which causes the Kenyan DFIs to suffer in the comparison. We have compared administrative costs with the investment portfolio, excluding fixed assets. In Table 3 administrative expenses are compared with total assets.

C. Profitability

The rates of return on investment in the DFIs are shown in Figures 9 and 10. Figure 9 shows the rates of return for the holding companies. On the whole the rates have been low, seldom surpassing 10%. The KTDC has clearly been the worst performer, losing money every year up until 1976 when it finally crept above the line. The ADC showed steady improvement from its dismal beginnings up until the early 70's. During the 70's its rate of return hovered in the neighborhood of 4-5%, and then disappeared in the 80's. The DFCK has generally had the highest returns, though at 5-10% they cannot be considered high. ICDC and IDB have reported small positive returns.

Figure 10 shows the rates of return for the other three firms. KNTC has been moderately profitable, in the 5-10% range during much of the period. Both KIE and NCC have been highly unprofitable, the NCC losing as much as 30% annually. These

Figure 9 Rate of Return

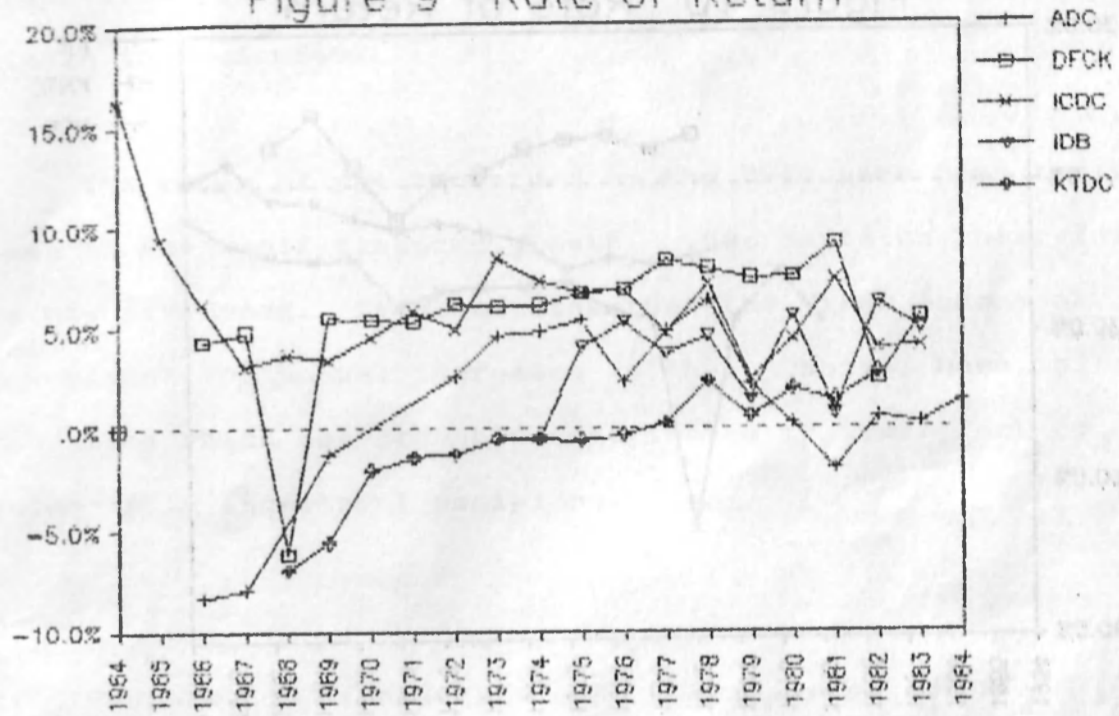
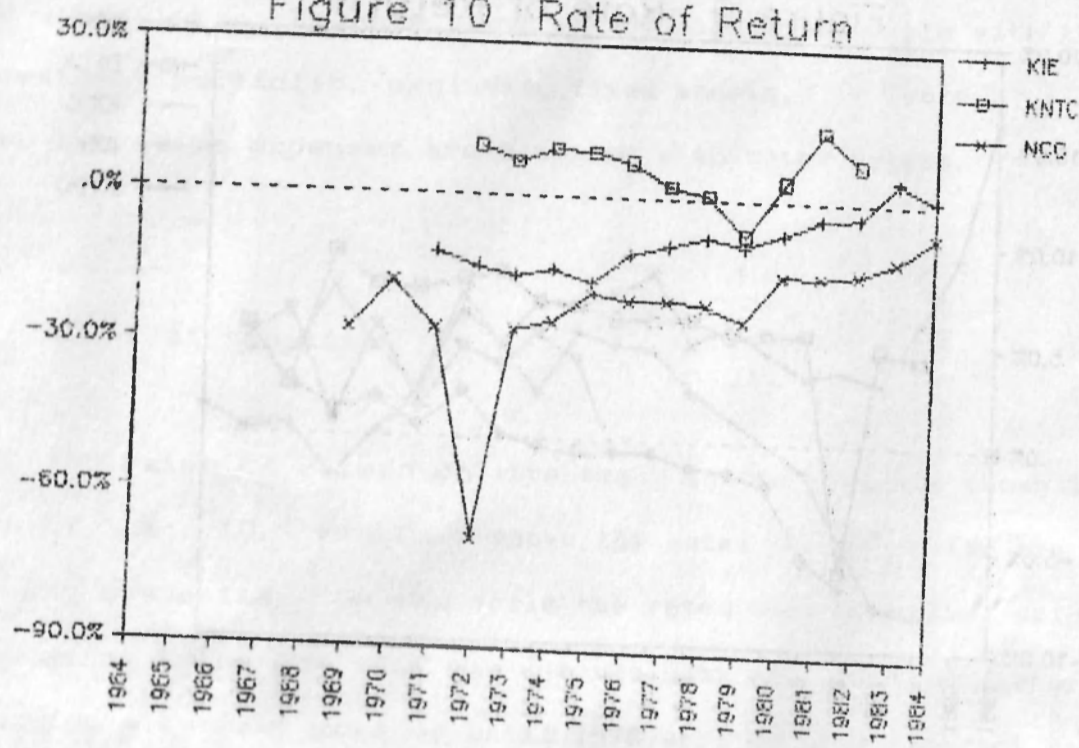


Figure 10 Rate of Return



figures are perhaps a bit misleading. Because of the extension service nature of KIE and NCC it was never expected that they would make profits or even break even. Each receives an annual grant from the government to cover costs, and they have lived within their incomes.

The rates of return earned by the DFIs have been too low for them to have self-financed growth. This explains their failure to pay dividends. It also means that the firms depend on government for annual increases in their capital base, a condition which has probably contributed to their lack of autonomy in investment decisions.

IV. Performance of Manufacturing Subsidiaries of DFIs

In 1980 Hopcraft and Oguttu attempted to compare the performance of manufacturing firms in which the DFIs have invested with other, purely private, manufacturing firms. Their conclusions were damning. In this section we present new data which contradicts their conclusions.

Hopcraft and Oguttu's conclusions were strong, and we quote them at length here:

This paper suggests that the parastatal investment companies have done little or nothing to push the manufacturing sector in the directions specified by the policy statements of government. Rather, they appear to have aided and abetted some of the least appropriate features of the Kenyan industrial structure. The parastatal

client firms tend to be large, capital intensive, import intensive and almost exclusively oriented toward a protected, overpriced local market. The parastatals have concerned themselves almost exclusively with the financial well-being of their client firms...

Firms are quick to perceive their optimal strategy as involving Government financially as much as possible and then using that involvement to extract further concessions which then have the appearance of being in the Government's interest. When Government or a parastatal has substantial holdings in a commercial firm it is not easy for Government officials to differentiate between the interests of that firm on the one hand, in seeking rents and transfers to itself, and the interests of the economy on the other where such rents and transfers may not represent real economic benefits.

Financial participation by government (or parastatal) has in Kenya become the best guarantee obtainable that a firm will make high and secure financial profits regardless of its economic efficiency or its international competitiveness. It is the key element for entry into what has been called the "corporate aristocracy" in Kenya. Membership of this aristocracy virtually ensures that the firm involved will be on the right side of the discriminating series of measures that government uses to promote manufacturing activity.'

We suggest that Hopcraft and Oguttu overstated their case and drew conclusions that went far beyond what their data could support. Their data shows clearly that larger firms were more likely than smaller firms to have government participation, and that government owned firms tended to be more capital intensive than private firms. This alone doesn't justify their strong conclusions. Hopcraft and Oguttu had no access to direct measures of competitiveness or efficiency. They had no way of knowing whether parastatals were more protected than private firms, and they had no evidence of average rates of protection at all. Hence their conclusions that the parastatal holding

companies have "aided and abetted some of the least appropriate features of the Kenyan industrial structure" seems to be based on the belief that capital intensity must be bad. We turn now to an examination of new data which strongly contradicts their conclusions.

During 1985 a study of the manufacturing study in Kenya was carried out under the direction of the Treasury and the Ministry of Commerce and Industry by Doris Jansen and Michael Selhorst. The study covered in detail the performance of 77 manufacturing firms during 1984. Interviews were conducted with management and each filled out a 17 page questionnaire which asked for information on revenue, costs and capacity utilization. Results of the survey were made available to the author on a disaggregate basis. From this survey we can calculate nominal and effective rates of protection and domestic resource costs, as well as profitability. This survey gives more accurate measures of effective protection than previous studies, since it uses actual domestic prices compared with c.i.f. world prices. Previous studies relied on tables of import duties and thus did not accurately include the effect of import bans or quotas or foreign exchange restrictions on effective protection.*

The sample of 77 firms covered about 33% of the net output and 28% of manufacturing employment. About one quarter of ICDC's subsidiaries are covered, fewer for IDB and DFCK. The sample is

biased in favor of firms which performed satisfactorily, to the extent that it covered only firms in operation, and a few subsidiaries of the DFIs have collapsed. This bias applies as well to manufacturing firms which are purely private.

The definitions used in this section are slightly unconventional, and deserve comment. We (following Hopcraft and Oguttu) have classified as parastatal any firm in which one of the DFIs holds some equity, be it minority, majority or total ownership. Most of the DFIs' investments are joint ventures with private partners most of which are foreign firms. Thus some of the firms classified here as parastatals have the majority of their shares owned by multinationals, and these firms also draw their top management from their parent firms. The reason for using this definition is that we wish to evaluate the contribution of the DFIs by examining the portfolio of investments they have chosen. We compare several aspects of performance of the firms in which the DFIs have invested with performance of firms in which they haven't invested. We assume that if firms in which DFIs have invested have performed better than firms in which they have not, then at least one can conclude that the DFIs have contributed to allocating capital to viable industries, and possibly the DFIs have also contributed positively to efficient management in the manufacturing sector.

The manufacturing firms which are partially owned by DFIs are on average more efficient and less protected than

manufacturing firms with no public ownership. The data which supports this surprising conclusion is shown in Table 4. Data are presented on four separate measures of performance, and each will be discussed below. Data are first presented in Table 4 for all industries together, and are then broken down by industry in later tables.

In Table 4, column 1 shows the nominal protection coefficient (NPC). This is the ratio between the domestic price for a firm's output and the c.i.f. price for a comparable imported good or the f.o.b. price for an exportable good. Values over one indicate that domestic manufacturers can sell their goods at inflated prices due to import restrictions such as tariffs or import bans. The table shows that the manufacturing parastatals enjoyed, on average, a 13% premium over world prices for their produce, while private manufacturers enjoyed a 16% premium. Within the parastatals, DFCK subsidiaries had much less protection (in fact negative) for their outputs than did subsidiaries of ICDC and IDB.

The second measure of performance is the Effective Protection Coefficient (EPC). The EPC is the best measure of whether trade policies create an incentive or disincentive for local production. The EPC explicitly accounts for the fact that effective protection may be lower than nominal protection, if the rate of tariffs on inputs is lower than that on outputs.

TABLE 4. MEASURES OF PERFORMANCE IN MANUFACTURING FIRMS

	NPC	EPC	DRC	ROR
<u>ICDC SUBSIDIARIES</u>				
Minimum	.91	.38	.28	-4.5%
Maximum	1.82	6.35	7.11	121.8%
Average	1.19	1.28	1.06	20.1%
Number of firms = 21				
<u>IDB SUBSIDIARIES</u>				
Minimum	.97	.67	.50	-26.0%
Maximum	1.31	1.36	4.55	19.9%
Average	1.17	1.10	1.96	1.0%
Number of firms = 6				
<u>DFCK SUBSIDIARIES</u>				
Minimum	.84	.69	1.01	-1.0%
Maximum	1.45	1.64	1.75	37.8%
Average	.97	.82	1.33	4.9%
Number of firms = 4				
<u>TOTAL PARASTATALS</u>				
Average	1.13	1.10	1.22	11.1%
Average, if capacity utilization were 100%: .96				
<u>PRIVATE SECTOR</u>				
Minimum	.89	.36	.48	-57.6%
Maximum	1.76	10.31	18.18	96.7%
Average	1.16	1.22	1.41	10.3%
Number of firms = 42				
Average, if capacity utilization were 100%: .93				

Similarly, the rate of effective protection may be higher than nominal protection if the average rate of tariffs on inputs is lower than on outputs. The EPC is the ratio of value added at domestic prices to value added at world prices. The EPC measures the degree to which factor costs (labor, rent, interest) for the stage of production being done in Kenya can exceed factor costs for that stage of production elsewhere while the goods remain competitive on the local market. An EPC of 1 represents no effective protection, while an EPC greater than one represents positive effective protection. A very highly protected firm can produce negative value added at world prices and will have a negative EPC.

Table 4 shows that the average EPC for parastatal manufacturing concerns was low, 1.10. This contrasts with the private sector, which had an EPC of 1.22. In other words, private manufacturers could operate with factor costs up to 22% higher than foreign producers and still find a market for their goods in Kenya. Parastatal firms, on the other hand, had lower effective protection.

The third measure of performance is the Domestic Resource Cost ratio (DRC). The DRC ratio is the ratio of domestic factor costs at social prices to value added at social prices. A DRC less than one indicates that there is more value added than resources consumed, and the firm makes efficient use of

resources. A DRC greater than one indicates that more resources were consumed by producing locally than value was added by local production. In such cases local production is more of a drain on the economy than importing the product would be. An extremely inefficient firm will have a negative DRC, since value added at social prices will be negative.

Table 4 shows that manufacturing parastatals are somewhat inefficient (DRC of 1.22) while private manufacturers are more inefficient (DRC of 1.41). Among the parastatals, ICDC's subsidiaries did much better (DRC of 1.06) than did those of IDP (1.96) or DFCK (1.33).

The final measure of performance shown in Table 4 is financial rate of return. This is measured as total returns to capital (including interest cost and profits) divided by the replacement cost of capital. Parastatal financial returns fell within a narrower band than private firms' returns. The least profitable parastatal didn't do as badly as the least profitable private firm. The most profitable private firm did considerably better than the most profitable parastatal. Overall the average rate of return for parastatals and private firms was very similar: 11.1% and 10.3% respectively. It seems that parastatals show narrower variance in profit rates than the private sector, but the means appear to be equal.

To summarize the performance of manufacturing parastatals: Consumers have paid somewhat elevated prices for the products of these firms, in the range of 13% more than for competing imports. However, the manufacturing parastatals have also paid prices for inputs that were elevated. The result is that manufacturing parastatals have experienced average effective rates of protection in the range of 10%. In contrast, private firms have enjoyed a spread between tariffs on their outputs and inputs, giving them on average twice the average effective rate of protection, around 22%. Average profit rates were about equal for parastatals and private firms.

While manufacturing parastatals have not been highly protected, they have been somewhat inefficient, as shown by an average DRC of 1.22. In large part this inefficiency stems from low capacity utilization during the year of the study; 1984 saw low consumer demand due to drought. Capacity utilization averaged 88% among manufacturing parastatals and 75% among private manufacturers. This excess capacity resulted in higher unit costs, which shows up in our measures as a high DRC. If capacity utilization had been 100% among manufacturing parastatals, average DRC would have fallen to .96. In other words, the source of their inefficiency in 1984 was reduced output. Private manufacturers suffered even lower average capacity utilization than did parastatal firms, which accounted for their greater inefficiency. If capacity utilization were

100% the private manufacturers would have an average DRC of .93.

From the available data, we can conclude that the subsidiaries in which DFIs have invested have done quite well on several counts, in every case better on average than purely privately owned manufacturers. They have sold goods at prices only modestly elevated above world levels. They have functioned with modest effective protection. During years when demand is higher they produce efficiently.

When comparing performance of firms within an industry, do parastatals still perform better than private firms? Or, when compared within industries, do parastatals do worse? In the latter case the better overall performance could only have been achieved if parastatals managed on average to invest in more viable sectors than has the private sector. We turn our attention now to comparing performance within industries. We seek to distinguish between two alternative views: that parastatals are inefficient and protected, both in absolute terms and relative to the private sector, and that which emerged from Table 4, that parastatals are less protected and more efficient than private firms. With some exceptions, we find that the conclusions from Table 4 remain valid.

Table 5 shows the average levels of the four performance indicators, classified by industry and by type of ownership. An

TABLE 5. AVERAGE MEASURES OF PERFORMANCE, BY INDUSTRY & OWNERSHIP

INDUSTRY	NPC	EPC	DRC	ROR	% of VA in Sample
1. PAPER & PACKAGING					
Parastatals	.86	.71	1.69	2.3%	12.7%
Private	1.06	.82	.84	14.0%	2.0%
2. WOOD & FURNITURE					
Parastatals	.97	.86	.97	8.3%	0.4%
Private	1.01	.70	.94	missing	missing
3. FOOD PROCESSING					
Parastatals	1.08	1.04	.87	20.7%	24.2%
Private	1.04	.98	1.51	5.5%	8.6%
4. BEVERAGES & TOBACCO					
Parastatals	.98	.96	.81	20.2%	1.4%
Private	1.08	1.17	1.18	13.3%	10.4%
5. CHEMICALS					
Parastatals	1.32	1.47	1.04	25.5%	10.4%
Private	1.07	.91	.99	9.8%	8.3%
6. TEXTILES					
Parastatals	1.28	1.30	1.65	7.5%	0.1%
Private	1.73	7.17	16.56	0.6%	13.7%
7. CLOTHING, FOOTWEAR, OTHER TEXTILE & LEATHER PRODUCTS					
Parastatals	1.11	.62	2.68	-4.5%	0.1%
Private	1.36	1.51	1.00	35.7%	6.9%
8. METAL & METAL PRODUCTS					
Parastatals	1.09	1.05	1.71	4.9%	1.6%
Private	1.36	2.69	5.20	3.7%	1.7%
9. NON-METALLIC MINERALS					
Parastatals	.91	.88	1.30	2.5%	0.4%
Private	1.22	2.05	2.05	12.8%	0.7%
10. ELECTRICAL & TRANSPORT EQUIPMENT & MISC. MANUFACTURES					
Parastatals	1.42	2.03	1.85	36.2%	1.3%
Private	1.44	6.21	4.16	33.7%	0.0%
TOTAL					100.0%

examination of Table 5 reveals that parastatals have lower rates of effective protection than private firms in the same industry grouping in seven of the ten industries. In Table 6 we rank the industries from the least protected to the most protected. It is shown in Table 6 that 2 of the 3 industries in which parastatals have greater effective protection than private firms are industries which have very low or negative rates. In other words, these are industries where parastatals are still unprotected, and so are more consistent with the generalizations of Table 4 than the view that parastatals are in general inefficient. The chemical industry is the only industry where parastatals enjoy effective protection which is both substantial in absolute terms and greater than private firms receive.

In addition to the fact that within each industry parastatals are generally less protected than private firms, parastatal investment is more concentrated in the industries with lower protection. Table 7 shows that 60.4% of the investments in firms in which parastatals participate are in industries with essentially no or negative effective protection, while only 31.7% of private capital is in those industries. Both parastatals and private firms have allocated about 30% of capital to industries with moderate rates of effective protection. Parastatals have invested only 10% of their capital in industries with high rates of protection, while 38.6% of private capital is in highly protected industries. This offers strong refutation to Hopcraft

TABLE 6. INDUSTRIES RANKED BY AVERAGE EPC

	EPC	Industries with para-statal more protected
1. Paper & Packaging	.73	
2. Wood & Furniture	.73	.86 v. .70
3. Food Processing	1.02	1.04 v. .98
4. Beverages & Tobacco	1.14	1.47 v. .91
5. Chemicals	1.22	
6. Textiles	1.35	
7. Clothing, Footwear, etc	1.49	
8. Metal & Metal Products	1.89	
9. Non-Metallic Minerals	1.97	
10. Electrical & Transport Equipment	2.12	

TABLE 7. DISTRIBUTION OF INVESTMENT BY INDUSTRY

	<u>PARASTATALS</u>	<u>PRIVATE</u>
	% OF CAPITAL	% OF CAPITAL
INDUSTRIES WITH NO EFFECTIVE PROTECTION	60.4	31.7
1. Paper & Packaging		
2. Wood & Furniture		
3. Food Processing		
INDUSTRIES WITH MODERATE EFFECTIVE PROTECTION:	29.6	29.7
4. Beverages & Tobacco		
5. Chemicals		
6. Textiles		
HIGHLY PROTECTED INDUSTRIES	10.0	38.6
7. Clothing, Footwear, etc		
8. Metal & Metal Products		
9. Non-Metallic Minerals		
10. Electrical & Transport Equip.		
TOTAL PORTFOLIO	100.0%	100.0%
TOTAL INVESTMENT (Mil. Shs)	8,291.3	5,145.1
number of firms	31	42
Average investment/firm	267.5	122.5

and Oguttu's assertion that the parastatals "have done little or nothing to push manufacturing" in healthy directions. Table 7 does confirm their finding that parastatal firms tend to be larger: the average size of the capital stock of the parastatals is more than double that of private firms. Big need not be bad; if economies of scale are realized and demand is sufficient, large firms in Kenya can be quite competitive. We saw above that capacity utilization was higher in parastatals than in private firms, reinforcing our conclusion that where parastatals have invested in large plants they have in general been justified.

Next we re-examine our generalization that parastatals, in addition to being less protected, are also more efficient on average than private firms. From Table 5 it can be seen that this generalization of greater efficiency (lower DRC) holds in six of the ten industries. In Table 8 we rank the industries by DRC from most efficient to least, and examine the exceptions to the rule. Two of the exceptions are found in industries where both parastatals and private firms are quite efficient and the means are quite close together. Hence, these two industries (wood and furniture and chemicals) are more consistent with our conclusions from Table 4 than with the view that parastatals are in general inefficient. There are two industries in which parastatals do seem to perform poorly, clothing & footwear, and paper & packaging. Keeping in mind these two exceptions, the generalization that parastatals are more efficient seems to be

TABLE 8. INDUSTRIES RANKED BY AVERAGE DRC

	DRC	Industries in which Parastatals less efficient
1. Wood & Furniture	.95	.97 v. .94
2. Chemicals	1.02	1.04 v. .99
3. Clothing, Footwear, etc	1.02	2.68 v. 1.00
4. Food Processing	1.03	
5. Beverages & Tobacco	1.13	
6. Paper & Packaging	1.57	1.69 v. .84
7. Textiles	1.79	
8. Electrical & Transport Equip.	1.90	
9. Non-Metallic Minerals	2.00	
10. Metal & Metal Products	3.50	

generally supported by the data.

It might also be noted that this greater efficiency on the part of parastatals is especially noticeable in those three industries which are most highly protected and least efficient overall. These industries, especially electrical and transport equipment and metal and metal products, are ones in which economies of scale are important and Kenya's market is small relative to the minimum efficient scale of production. It is highly questionable whether these are wise investments for Kenya, but if it is desired to develop capacity in them, then parastatal involvement seems preferable.

The argument for parastatal involvement is related to Hopcraft and Oguttu's discussion of why firms seek parastatal participation, but turns their conclusion on its head. These industries depend on high protection to be viable. Private investors will naturally be cautious about sinking large sums into immovable plants which could be rendered completely unviable at the next budget, should Kenya's foreign exchange position remain tight. In order to induce private investment in such circumstances it is necessary to offer very high protection to enable quick recovery of capital. If there is parastatal participation, on the other hand, it is less necessary to offer such extreme inducements. The parastatal capital serves as a sort of hostage, to convince the private partner that the

protection offered now could not be withdrawn abruptly. Thus private firms will be willing to invest under protection levels which permit normal profits and capital recovery times. The process which Hopcraft and Oguttu describe, where the government becomes unable to "differentiate between the interests of that firm on the one hand, ...and the interests of the economy on the other" makes credible this form of investment guarantee. Parastatal participation induces private participation with lower concessions than would otherwise be necessary to attract investment.

Finally, the data presented seem to challenge the view which is so widely held (though not by Hopcraft and Oguttu) that parastatals are highly unprofitable. In Table 4 we saw that overall rates of profit are nearly identical between parastatals and private manufacturing firms on the whole. From Table 5 it can be seen that parastatals are more profitable than private firms in seven of the ten industries. In the three industries in which parastatals are less profitable than private firms, in every case the parastatals have lower average rates of effective protection. In two of the three industries the parastatals are also less efficient on average than the private firms. There is no industry where it can be said that parastatals are less profitable solely because of greater inefficiency, since they are also less protected.

So far we have compared the mean values of the various measures of performance, but we have not examined correlations between the different performance indicators. This can best be done using regression analysis. The results are reported in Table 9.

There is no reason to expect that higher rates of effective protection should be correlated with higher profitability. This non-relationship has two possible origins. A firm which is highly protected could become inefficient, enjoying the quiet life which Sir John Hicks suggested was one of the chief rewards of monopoly. Even if existing firms were not to dissipate their profits by becoming inefficient, raising protection should induce entry until profit rates have been driven down to normal levels. If there are economies of scale in the industry this will probably mean the industry will be populated by plants smaller than the minimum efficient scale, or with low rates of capacity utilization. Both conditions will result in low efficiency (high DRC).

The expected lack of correlation between protection and profitability is confirmed in equations one and two in Table 9. For neither parastatal nor for private firms is there a significant coefficient on EPC, and the low R^2 for both equations confirms the lack of explanatory power.

TABLE 9. RELATIONS BETWEEN MEASURES OF PERFORMANCE

EQ.	Dep Var	Indep. Var. : constant	EPC	1/DRC	R ²	OWNERSHIP
1	ROR*	-.022 (.095)	.147 (.099)		.002	parastatal
2	ROR*	.053 (.052)	.068 (.054)		.03	private
3	DRC	.726 (.346)	.768 (.182)		.39	parastatal
4	DRC	-.126 (.527)	1.48 (.179)		.64	private
5	ROR*	-.316 (.049)	.138 (.043)	.324 (.099)	.82	parastatal
6	ROR*	-.240 (.083)	.171 (.051)	.166 (.054)	.34	private

* equation was transformed by dividing all variables by EPC, in order to correct for heteroskedasticity

Standard errors are reported in parentheses.

Next, in equations three and four, we confirm that protection and inefficiency do indeed come together. The connection is much closer for private firms than for parastatals. These equations show that an increase of one percentage point in the effective protection coefficient is associated with only three quarters of a percentage point in inefficiency in parastatals, but one and a half percentage points in private firms. Furthermore, the higher R^2 for private firms (.64 compared with .39) confirms that level of protection is less useful in explaining the pattern of efficiency v. inefficiency in parastatals than in private firms.

Of course, equations three and four cannot be interpreted causally; causality could run in either direction. High protection invites investment by inefficient firms, but inefficient firms are also likely to lobby for high protection. The high R^2 of equation four suggests that, whichever direction the causality operates, the link is fairly tight in the private sector. The lower R^2 of equation three suggests that either parastatals are not as likely to be induced to invest by high protection, or that inefficient parastatals are not as likely to succeed at lobbying for protection.

We already saw in Table 7 above that the first factor seems to be in operation; parastatals have concentrated their investments in industries with low effective rates of protection.

Hopcraft and Oguttu's assertions notwithstanding, examples can also be found of the second factor. One such example occurred recently in the market for distilled alcoholic beverages. There are three firms in this industry, two parastatals and one private, a recent entrant. Soon after the private firm began operations, the Minister of Finance announced that those distilling firms which did not hold licenses for rectifying and compounding their products (an unusual distinction which included only the private firm) would face sales tax of only 20% while the other firms would continue to pay a sales tax rate of 50%.⁹ That government policies should discriminate against parastatals may at first seem surprising. However, on second thought it may not be so surprising. Lobbying is a costly business, in terms of time and perhaps also of bribes. Parastatal managers don't have their own financial futures at stake in the same way as private entrepreneurs, so it may be understandable if their lobbying were less persistent or less effective. Hopcraft and Oguttu were clearly wrong in their assertion that parastatal involvement ensured "that the firm involved will be on the right side of the discriminatory series of measures that government uses to promote manufacturing."

Summary of DFIs' role in manufacturing

Manufacturing parastatals have been popular subjects of criticism. We have used Hopcraft and Oguttu as representatives

of the common view that the DFIs have encouraged protection as well as investing in firms which are inappropriately large and capital intensive. Much of the criticism of the DFIs has been based on scanty evidence. Based on an important new data source, we have come to very different conclusions on the role of parastatals in manufacturing.

We have found that on average parastatals are somewhat protected and inefficient, but that the levels of effective protection and inefficiency are less than those of the private firms in the sample. We found that these conclusions held, with a few exceptions, within industries as well as overall. We found that parastatals have allocated over twice as much of their investment portfolio to industries which are unprotected as has the private sector. The share of their portfolio in highly protected industries is only about one quarter that of private firms. In these highly protected sectors parastatal efficiency has been far better than private firms', suggesting that parastatal participation in joint ventures is a valuable tool in industrial strategy. We have seen that parastatals are less likely to respond to high protection by becoming inefficient, and less likely to effectively seek protection when they are inefficient. Their overall profit rates are quite similar to profit rates of private manufacturers, but these profits are earned by greater average efficiency and lower average effective protection.

The information presented here leaves unanswered the question of why the DFI subsidiaries seem to perform better than the private sector. There are at least three possible factors which could be at work. First, the DFIs may simply be better at identifying viable investments which can function with less protection. Since this is one of their explicit roles, this is not an implausible explanation.

Second, it may be that the DFIs play a positive role in management of their subsidiaries. They provide management advice and consulting, sit on boards of directors, help recruit and select managers, etc. They also get involved in rescue operations when firms get into trouble. To the extent that these services are effective, they would lead to better performance by DFI subsidiaries, compared with private firms, especially those owned by local entrepreneurs, who may have no ready source of such assistance.

Finally, Hopcraft has emphasized the role of DFIs is serving as advocates for their subsidiaries in government fora. We have seen from the data that it appears they have not succeeded in winning discrimination in favor of ways that show up in the EPC. (Things which affect EPC include things which affect prices, such as tariffs, price controls, taxes, import bans, etc.) However, there are a whole set of ways in which DFIs could serve as

effective advocates, which would not affect EPC. Examples include securing timely processing of export compensation claims, foreign exchange allocations, import licenses, etc. If DFI subsidiaries receive better treatment at the hands of government agencies, it would contribute to higher efficiency and higher profitability for the DFI subsidiaries.

All of these possibilities represent a positive contribution of DFIs. Further research will be required to distinguish which explanations seem more dominant.

V. Conclusions

The evaluation of the DFIs presented here has been far from complete. Their primary mission is to foster development in the private sector, so a complete evaluation would need to examine the record of the firms they have assisted. The DFIs have not reported such data, and it has only been possible here to examine the record in manufacturing. Furthermore, since it is not possible to specify their output, it has also been difficult to discuss their efficiency.

Nonetheless, certain conclusions emerge. The three DFIs which specialize in manufacturing (ICDC, IDB, and DFCK) appear to have performed fairly well. They seem to have fostered healthy growth in the manufacturing sector insofar as their subsidiaries have been more efficient on average and have functioned with less

protection, on average than have manufacturing firms which are purely private. We conclude that these DFIs have made an important contribution to development in their sector. These firms seem to have offered their subsidiaries near-commercial terms on their long-term finance (with the exception of IDB equity holdings), which has no doubt contributed to allocating resources to economically and commercially viable enterprises.

Despite their substantial achievements, these three firms have made numerous poor investments, which has depressed their profitability to modest positive levels. The responsibility for these poor investments may well lie largely with the government rather than the DFIs. The firms seem to have had good cost control, at least up until the late 70's when costs began to increase. Other factors than growing inefficiency may explain part or all of the reported increase, but it is not possible to say how much.

The other two holding companies (ADC and KTDC) have performed quite differently. They have invested their capital on highly concessionary terms and earned very poor (even negative in the case of KTDC) rates of return. Their costs have been consistently higher than those of the manufacturing group. No data has been presented on the success of the ventures they have aided. The poor financial returns they have received from their subsidiaries probably indicate poor average performance. The

ADC's farming operations seem to have been an exception. The poor returns of the KTDC are hard to accept--the tourism sector as a whole has been highly profitable and KTDC seems not to have been able to take advantage of an attractive environment.

The record presented here for the KNTC, KIE and NCC has been very incomplete. All we have been able to say about KNTC is that it has been moderately profitable. Considering it has a monopoly on the goods in which it trades, this is not surprising, and cannot be taken as an indicator of good performance. It is clear that some Africanization of retail and wholesale trade has occurred since KNTC began, but persistent grumbling suggests that many remain dissatisfied with the progress.

KIE and NCC have not been profitable--the nature of their business would make it surprising if they were. We have not been able to assess their efficiency, or the degree to which the enterprises they have aided have succeeded. Clearly some KIE aided enterprises do succeed (Mushi, 1983). But the overall record remains unclear. No data is available on the success of African entrepreneurs at penetrating the construction sector.

NOTES

1. See "Take-Over Bid by the Block Family," Weekly Review, December 19, 1986, page 14.
2. Ibid.
3. "Role and Functions of the KTDC," 24.10.71, memo from Frank Mitchell to the Permanent Secretary, Ministry of Finance and Planning, TSM/ADM/DEV/1/c(88).
4. World Bank internal memo from Barbara Kafka, dated June 22, 1983, "Kenya: Financial Sector Report--Background Paper on ICDC."
5. To the extent that costs for some of ADC's agricultural activities are not decentralized to farm level, the measure may be biased against ADC. For example, personnel functions for farms in Western province are handled from the regional office rather than at farm level. If the costs are recorded in overhead, rather than being allocated to particular farming units, the measure may lack comparability with the other holding companies. The same problem may exist with KTDC data.
6. See, for example, the Chairman's statement in the ICDC annual report for 1980/81, page 4.
7. Peter Hopcraft and Joseph Oguttu, "Parastatal Development Agencies and Their Relationship with the Private Sector," in Institute for Development Studies Occasional Paper No. 39, Nairobi, 1982.
8. See World Bank, pages 322-5 for a review of the earlier studies by Phelps and Wasow and by Reimer.
9. See "Spirited Controversy," Weekly Review, Nov. 7, 1986, page 23, and "Spirits Controversy Continues," Weekly Review, Nov. 14, 1986, page 15.

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