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GARMENTMAKING IN NAIROBI:
A Research Proposal

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ABSTRACT

The paper outlines proposed research on Nairobi's garment industry. Using a political-economy framework, the research will investigate whether two patterns of success identified in an earlier study of small-scale manufacturing stand up to more rigorous testing. In particular, the research will examine whether the smallest garment manufacturers follow the small-and-flexible model, and whether capital accumulation is related to the social class and rural linkages of the business owner. The research will also investigate differences between men's and women's businesses, the impact of ethnicity on business performance, and the industry's export potential.

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INTRODUCTION

The place of small-scale enterprise in developing economies has been debated vigorously since the early 1970s (International Labour Office ILO 1972, Hart 1973, Bromley and Gerry 1979, Deble and Hugon 1982, Bromley 1985, Chuta and Liedholm 1985). The first small-enterprise studies focused on the employment-generating potential of what came to be called the "informal sector" (ILO 1972, Hart 1973, Mazumdar 1976, Breman 1976, Sethuraman 1976). Later, however, it became clear that to promote development, such enterprises should do more than absorb surplus labour. They must also generate their own growth through reinvestment of profits. Whether small producers are likely to expand in this way remains a question.

This paper is preliminary to a study of the development potential of small-scale production. Building upon previous research that identified two patterns of success among small manufacturers, I will investigate profitability and capital accumulation in Nairobi's garment industry.

SMALL ENTERPRISE AND DEVELOPMENT

In the 1970s, as development economists shifted their focus from per capita income to distribution and employment, interest in the development potential of small enterprises grew. Three empirical studies and a major consultancy report, all dealing with informal income opportunities, brought small economic activities into the spotlight (ILO 1972, Hart 1973, Weeks 1973, Wallace 1973). The report of the International Labour Office's mission to Kenya (ILO 1972) popularized the term "informal sector" and sparked academic and political debate. The resulting literature falls into two broad theoretical streams, differing in underlying assumptions and empirical focus.¹

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Conceptualizations of the Economy

Much of the informal sector debate was premised on a dual-economy model of development. In this view, Third World² economies have two separate sectors: capital-intensive industries using the latest technology, and subsistence production.³ Adopting a similar framework, scholars divide non-agricultural activities into formal and informal sectors.⁴ The informal sector comprises individuals and very small firms using labour-intensive technology, family workers, and indigenous resources, and operating in unregulated, highly competitive markets (ILO 1972: 6). These businesses are seen as a distinct economic sector, separate from the government bureaucracy and larger, private organizations constituting the formal sector. Dualist models embody a structuralist view of the economy and usually lead to recommendations for the removal of obstacles, bottlenecks, and constraints to efficient economic performance.

Other scholars, often with a Marxist orientation, reject dual-economy models and argue that the main issue is not scale or capital-intensity, but the differentiation of social classes caused by capitalist development. Seeing small enterprise as essentially petty commodity production with its incomplete separation of capital and labour, they view arbitrary division of firms into formal and informal sectors as neither helpful nor empirically accurate. They believe that productive activities form a continuum from simple artisans to large capitalist enterprises. These scholars focus on the social relations of production, often emphasizing the dependence of petty commodity production on large-scale capitalism. Sceptical about the possibility or desirability of institutional reform, they often eschew policy recommendations as counter-productive, preferring instead to advocate sweeping social change.

Scholars of both perspectives agree that capitalist development requires building capitalist relations of production and accumulating capital. This means that the successful enterprise will increase its workforce and reinvest profits.

Government Policy towards Small Enterprise

Capital scarcity and growing unemployment turn many governments towards development strategies emphasizing small-scale enterprise. Typical of this trend, the Kenyan government now favours development of the informal

sector.⁵ Small-scale manufacturing, in particular, is seen as potentially a major contributor to the country's economic growth (Kenya 1986a: 15). Yet the precise relationship of small manufacturing to economic development remains unclear. Policymakers hope that small enterprises will give business owners opportunities for reasonable income and assurance of well-being, and simultaneously build up the country's productive structure. If this is the case, the economy can develop with smaller amounts of capital than required for an industrialization strategy based on large enterprises. If not, fostering the informal sector may divert resources from more productive uses.

THEORETICAL FRAMEWORK

The study will take a political-economy approach, recognizing that the particular contours of Kenyan capitalism are the result of many variables. The organic unity of economy and society, particularly the interaction of economic, political, and social variables, requires a political-economy approach. Earlier research identified risks in the environment as key to understanding the operations of small-scale enterprises.⁶ Although frequently analysed as an economic variable, risk cannot be divorced from its political and social roots. Capital accumulation also appears related as much to social as to purely economic variables. Thus, the current research will explore a wide range of social, political, and economic factors as possible explanations of business performance.

Social Class

Class analysis -- defining social classes and applying the definition to concrete situations -- is central to a political economy approach. Because change is sometimes evolutionary but often conflictual, the general framework of Marxian class analysis is helpful. Yet neither an exclusively economic basis for class determination, nor Marx's portrayal of the succession of the modes of production fits Africa very well (Cowen and Kinyanjui 1977, Sklar 1979, Kitching 1980, Schatzberg 1980, Lewin 1985).

In most African countries, the size and importance of government bureaucracy and the persistence of patriarchal social and productive relations make access to the means of production as important as their ownership. The spouse of a mid-level civil servant may, for example, obtain a market stall more easily than another business owner. The younger brother

of a wealthy businessman can legitimately expect financial assistance with a struggling business. Because of the importance of access, Roemer's (1986: 96) notion of class as "differential ownership of or access to the means of production" seems appropriate to African societies.

Applying the definition requires specifying both the means of production and the channels of access. Marxian analysis generally assumes that exploitation occurs because some people own physical assets that enable them to produce goods for the market. In socialist societies and in the bureaucratic mixed economies typical of many African countries, however, two other unequally distributed assets can be the basis of exploitation: skill/credential assets and organizational assets (Wright 1986, Roemer 1982). Skilled people (experts) are often in a position to claim remuneration in excess of their per capita share of society's assets in labour power. They are, thus, in the Marxian sense, exploiters. Likewise, those with authority to control and coordinate the state's productive activities (managers) are rich in organization assets. They not only receive higher than average salaries, but also have ready access to facilities, equipment, licences, and other means of production controlled by the state.

Figure 1: Basic Typology of Exploitation and Class Assets in the means of production

Owners				
1. Bourgeoisie	4. Expert Manager	7. Semi-credentialed Manager	10. Uncredentialed Manager	+
2. Small Employer	5. Expert Supervisor	8. Semi-credentialed Supervisor	11. Uncredentialed Supervisor	Organization Assets
3. Petty Bourgeoisie	6. Expert Nonmanager	9. Semi-credentialed Worker	12. Proletarian	-
	+	Skill/Credential Assets	-	

Source: Wright (1986: 127).

Using skill/credential assets and organization assets as subordinate relations of exploitation, Wright (1986) offers a schematic typology of capitalist classes (see Figure 1). The schema is divided into two parts, one for owners of the means of production and one for nonowners. Owners are classified in the usual way: bourgeoisie, small employers, and petty

bourgeoisie. Within the wage-earner section, locations are distinguished by organization assets and skill/credential assets. Levels of each increase along the rays away from the proletarian box. Wright argues that two distinct groups comprise the middle classes: those who have precisely the per capita level of the relevant asset and are, thus, neither exploited nor exploiting; and those who, on one dimension are exploited while, on the other, exploit. Those simultaneously exploiting and exploited make up the "new" middle classes. In the following analysis, the middle classes include only those with above average power to exploit some asset. Small employers and those in the three "expert" and three "manager" categories are, therefore, middle-class, but the petty bourgeois self-employed producer with average capital stock and the semi-credentialled supervisor with ordinary organization and skill assets are not automatically included.

Whether these or others can be described as middle class depends on their access to the means of production. Some without superior physical, skill, or organization assets may be able to draw on the assets of others. The previously mentioned spouse of a civil servant or younger brother of a business executive fall into this category. Middle-class membership defined by access through others is less clear-cut than one resting only on the individual's own assets, yet it is no less real. Some people undeniably have improved access to productive resources by virtue of the class position of spouse or relatives.⁷ To exclude them from the middle class would distort analysis of the effects of class on business performance. The middle class will, therefore, be defined as including experts, managers, small employers, and those persons with access to productive resources through a bourgeois or middle-class spouse or relative.

Applying the definition of class requires knowledge of the social structure as it affects both men and women. For example, most analysts assume that women's class is the same as that of related men: husbands, fathers, or brothers. Yet African women often differ from their husbands and male relatives in ownership rights and access to resources (Robertson 1988: 182). Since incomes and family financial obligations are not always pooled, women and men in the same household may occupy different class positions (Robertson 1984, Folbre 1986, MacGaffey 1988, Stichter, 1988). Judging a woman's social class, therefore, requires knowing what assets she owns or can tap. A woman who is an expert, manager, or small employer is clearly middle-class. A woman with bourgeois or middle-class relations

may also be, but only if these relatives are willing to use their position for her benefit.

Ethnicity and Culture

Scholars who regard the economic base as the major determinant of business success often dismiss ethnicity as irrelevant. Yet students of Kenyan affairs cannot deny the way consciousness of ethnic identity pervades everyday life. Even in urban areas, where members of different ethnic groups live, work, and go to school and church together, mother tongues are heard as often as national languages and people quickly identify themselves as Luo, Kikuyu, Luhya, or Kamba. Nyangira (1987) correctly argues that, for better or worse, ethnicity colours interactions between economic and political realms, between rulers and ruled, between wealthy and poor. Nyangira's analysis suggests that Kenyan productive relations, while structurally rooted in class, can be eased or made more onerous depending on ethnic affiliations.

Culture is closely tied to ethnicity, yet different in that it often has many layers. Scholars now recognize that harmonizing culture and industrial civilization is even more challenging in regions having an amalgam of cultures rather than a single national culture (Ekeh 1986). Understanding Kenyan development demands, not only general theoretical models, but also recognition that cultural values embodied in religion, family structure, and patterns of social interaction are the foundation for economic development.

Kenyan Capitalism

Small business in Kenya operates within a capitalist economy. Despite early rhetorical gestures towards "African socialism," Kenyan policy has followed a basically capitalist development model. Capitalism is anchored in a prosperous and powerful bourgeoisie and enjoys substantial popular support (Leo 1984: 9). Yet Kenya is by no means a pure market economy. Subsistence production and state intervention coexist with private enterprise to form the Kenyan mixed economy. The government is significantly involved in the economy through planning, regulation, licencing, the operation of large parastatals, and the construction and maintenance of facilities for certain types of small businesses. Since no change in the fundamentally capitalist orientation or the economic involvement of the

Kenyan state appear imminent, I will assume that small-scale enterprise will continue to operate within a mixed economic framework.

SMALL-SCALE MANUFACTURING

Kenya's small manufacturers fall roughly into four major and several smaller activity groups. Food processing, manufacture of wearing apparel, manufacture of wooden furniture, and metal work account for the majority of firms (Kenya 1985, McCormick 1988). The remainder engage in shoe making, wood carving, and basket weaving. Food processing activities are found mainly in the rural areas, while the manufacture of textile, wood, and metal products takes place in villages, towns, and large cities throughout the country. Many carpenters and metal workers are part of the jua kali (harsh sun) workforce, working outdoors or in simple sheds. Tailors and dressmakers tend to locate in markets and shopping centres. Although most manufacturing firms are owned by men, in Nairobi almost equal numbers of men and women make clothing.

Closer examination of Nairobi's small manufacturers casts doubt on the effectiveness of small-enterprise promotion as a development strategy. The very mechanisms ensuring small firms' success work against capital accumulation and, thereby against economic development. Two broad patterns of success appear to prevail: the small-and-flexible firm and the accumulator.

The Small-and-Flexible Model

The small-and-flexible model describes many of Nairobi's smallest manufacturers. Faced with an unpredictable business environment, owners of such businesses adopt varied devices to maximize their flexibility, thus ensuring survival.

Informal-sector studies have long noted the flexibility of small enterprises and remarked on the ability of individual participants to cope with changing circumstances. Hart's (1973) central thesis, for example, was that urban migrants adapt to lack of sufficiently remunerative work by having informal occupations. Small firms also adapt, using various strategies: low-paid or unpaid labour (Bernard 1980, Charms 1980, Banerjee 1982, Berry 1985), free or inexpensive workplaces (Nihan 1980, Ndua and Ng'ethe 1984, Noormohamed 1985), low capital intensity (Schmitz 1982), subcontracts

(Roberts 1978, Abadie 1982, Peattie 1982, Schmitz 1982), and use-of family members in the business (Child and Kempe 1973, Zarenda 1980, House 1981, Mathias 1983, Lipton 1984). Among Nairobi's small manufacturers, three flexibility tactics predominate: working in rent-free quarters, following a family organizational pattern, and using very little capital. By setting up shop in any vacant space, some business owners -- especially carpenters and metal workers -- avoid rent payments. Family organization contributes to flexibility mostly by reducing wage costs and allowing business owners to diversify by taking other work. By limiting capital equipment, businesses save on the costs of maintenance, protection, and the opportunity cost of funds invested. Their specific tactics -- growing out of particular historical, social, and economic circumstances -- are less important than their overall strategy. All manifest the general tendency of small businesses in an uncertain environment to be highly flexible. Apparently their small size and flexibility enables them to survive and succeed.

Analysis of the 1986 data revealed that profitable firms were smaller and more flexible than unprofitable ones. The model employed was discriminant analysis, a statistical technique for distinguishing among groups and establishing procedures to predict the placement of new cases (Klecka 1980, Norusis 1986, Manly 1986). The function used to separate the firms had three variables: flexibility, size, and age of firm. Flexibility (FLEX) measures each firm's use of each of rent-free quarters, family organization, and capital equipment. The variable size (SIZE) was defined as a function of the number of workers and the depreciated value of capital equipment. Because older firms are more often profitable, businesses were grouped into three age categories (AGECAT): less than four years old, four to ten years, and ten years or more.⁸

Using separate discriminant functions for more and less formal firms, businesses were classified as profitable and unprofitable. Comparison of the resulting lists with actual profitability or unprofitability showed 80 percent of the firms correctly placed -- a 60 percent improvement over results expected with random assignment. The statistics indicate that the model is a more accurate predictor of success for less formal firms.⁹

Capital-Accumulating Firms

The second success pattern -- the capital accumulating firm -- is quite different. Some larger, more formalized businesses accumulate capital

The somewhat incomplete data of previous research suggest that rural linkages and social class explain capital accumulation. Marxist theory, which envisages peasants and capitalists as entirely separate groups, predicts weak rural ties for urban capitalist enterprises. Among Nairobi's male accumulators, rural linkages -- measured in terms of land ownership, spouse residing in the rural home, and number of annual visits to the rural area -- were significantly lower than among other businessmen. Factors associated with capital accumulation are different for women's firms. Higher social class seems to account, at least in part, for women's ability to amass capital.

NAIROBI'S GARMENT INDUSTRY

The analysis of Nairobi's small-scale manufacturing -- especially the identification of success patterns -- has increased understanding of small business performance. Yet it also raises major questions. Will the two models hold up to more rigorous testing? Is the degree of flexibility related to the rate of return on investment? Do accumulators have weaker rural linkages, or are their ties simply different? Is the observed relationship between capital accumulation and social class confined to women? Does ethnic affiliation influence business performance? Would examining larger firms improve understanding of capital accumulation? Could more small firms move into the export market?

I propose to deal with these issues through intensive study of the garment industry. General studies encompassing a wide variety of activities, while useful for revealing broad patterns, need to be complemented by in-depth examination of different industries (Schmitz 1982, Moser 1984). In manufacturing, branch-specific studies are particularly important because markets and technology vary from branch to branch, and because small producers' ability to expand can often only be understood in relation to larger firms in the same industry (Schmitz 1982).

The manufacture of wearing apparel was selected from among the major industry groups for several reasons. First, the relatively uniform technology, similarity of supply channels, and geographic concentration simplify study of clothing firms. Second, small-scale production dominates the industry. The clothing industry in Kenya averages only 3.2 persons per establishment -- despite over 40 large-scale firms with 50 or more employees -- making it ideal for examining the performance of small firms (Kenya 1986b).

Third, in many developing countries, clothing manufacture is an export industry. A recent United Nations report suggesting that Kenya could develop an export-oriented clothing sector makes knowledge of apparel manufacture vital for coherent planning (UNIDO 1988: 36). Fourth, only garmentmaking has nearly equal numbers of firms owned by men and women, allowing systematic examination of differences between men's and women's businesses.

General research on garmentmaking helps to pinpoint problems common to the industry worldwide (Anjad 1981, Hoffman 1985, Vaahtokari 1985, Little, Mazumdar and Page 1987, Mody and Wheeler 1987, UNIDO 1987, Anderson and Park forthcoming). Particularly important is Hoffman's (1985) analysis of the potential impact of microelectronics on the nature of production and the patterns of international trade in the clothing industry. Although the industry continues to rely on labour-intensive technologies favouring low-wage producers, preconditions are being laid for a fundamental structural and technological transformation of industrialized countries' production (Hoffman 1985, Mody and Wheeler 1987).

Kenyan textile-industry studies provide valuable information about aggregate output of textile products and the operation of large firms, but very little on small-scale garment manufacturers (Kenya 1977, Isaaka, Ndegwa, and Kisobi 1983, Langdon 1984, Coughlin 1987). Kenya has a fairly well integrated textile industry producing a wide range of fabrics used in clothing manufacture. Specialty suit trimmings, buttons, and zippers, however, are frequently imported. Production of clothing more than tripled between 1976 and 1986 (Coughlin 1987: 4). Comparison of gross output for "all firms" and "large-scale" firms suggests that over one-third of clothing is produced by small and medium sized establishments (Kenya 1986b).¹⁰

If the organization, operations, and distribution of small firms in the Eastlands are typical of the rest of the city, then Nairobi has over 2,000 small-scale garmentmakers.¹¹ Although several hundred are concentrated in the large City Council markets at Jogoo Road and Quarry Road, others are scattered in markets, shopping centres, and private homes throughout the city. Typically they have two or three sewing or knitting machines and as many workers. They usually make only one type of clothing, such as men's trousers, women's dresses, or school sweaters. Many manufacture for

the market, selling either retail or through wholesalers. Others only make to order, sometimes even depending on the customer to provide the cloth. Some supplement their income by doing repairs or training apprentices. Tailors and dressmakers often buy their raw materials in small quantities in retail shops or local markets. Like other small-scale manufacturers, the garmentmakers succeed by staying small and flexible, with only a small proportion accumulating capital.

HYPOTHESES

Within the theoretical framework outlined above, I will test working hypotheses on the small-and-flexible model, the characteristics of capital accumulating firms, the profitability of women's firms, and the export potential of Kenya's garment industry.

The Small-and-Flexible Model

Lacking complete profit-and-loss data, the first study categorized firms as profitable or unprofitable based partly on financial data and partly on the fact of survival over a reasonable period. Financial data gathered at different times of year, instead of in a single interview, should improve estimation of net income and result in more accurate identification of profitable and unprofitable firms. I believe that the small-and-flexible model will again accurately describe the smallest businesses. I, therefore, hypothesize that businesses with ten or fewer workers can be grouped into profitable and unprofitable on the basis of three discriminating variables: size, flexibility, and age of the firm. I further hypothesize that for such small firms the annual rate of return on invested capital is positively correlated with flexibility of the firm.

Capital Accumulating Firms

Based on a rural index consisting of land ownership, spouse's residence, and frequency of rural visits, the rural linkages of capital-accumulating businessmen appear weaker than those of other business owners. Yet the fact that they often continue to be linked to the countryside through remittances and rural investment may mean that their rural ties are not weaker, but simply different from those of other entrepreneurs (Bujra 1979, Collier and Lal 1986). Tostensen's (1986) finding that factory workers' practice of leaving their families in the rural area indirectly subsidizes

capitalist enterprise may also hold for owners of small businesses. To clarify the nature and extent of the rural linkages of accumulating business owners, I propose to add a measure of rural-urban resource flows to my index of rural linkages. Using this revised index, I will test the hypothesis that garmentmakers who accumulate capital have weaker rural linkages than other garmentmakers.

Examination of small-scale manufacturing cannot assume uniformly of class, but must always be open to the possibility that class differences may explain differing business performance. My earlier research led to the tentative conclusion that, for women at least, membership in the middle class is associated with capital accumulation. In that research, however, evidence of class membership was incomplete. Information concerning the nature of the spouse's work and the respondent's access to resources through family members was not gathered. Questions designed to elicit this information will be included in the current survey, allowing me to explore the possible association between capital accumulation and social class. To do this, I hypothesize that capital accumulation is more likely to occur in businesses in which the owner is at least middle class.

Ethnicity and Culture

Cursory examination of ethnic data from the 1986 survey revealed no clear trends. But, because no detailed analysis was carried out, the impact of ethnic affiliation is unclear. Macharia (1988) found -- at least in certain Nairobi markets -- ethnic concentration in garmentmaking. He argues that ethnic affiliation eases entry into the trade in two ways: by favouring co-ethnics as apprentices, and by the practice of retiring tailors passing market stalls to relatives. These observations highlight the need to distinguish benefits accruing from ethnicity from those of family membership. Establishing an ethnic advantage requires examining the interactions of unrelated co-ethnics.

Macharia does not deal with the question of whether success once in garmentmaking is related to ethnicity. I believe that, though ethnicity undoubtedly colours interactions between business owners and customers, suppliers, and government officials, it is much less important than class in determining success. I hypothesize that ethnicity is not a significant factor in business success or capital accumulation.

Differences Between Men's and Women's Firms

Earlier research showed that men's and women's firms differ in profitability and capital accumulation. Men's businesses were more likely to be profitable, but women more often accumulate capital. This paradoxical finding appears due in part to the newness of women's businesses. The earlier analysis indicated that, when data are controlled for age of firm, men's and women's success rates are the same. Yet, as relative newcomers to business, women experience the problems common to new firms, including operating losses. It seems reasonable to expect that this will improve over time. I, therefore, hypothesize that relatively more women's firms are profitable now than were in 1986.

Women who own accumulating businesses do not differ much from other businesswomen in strength of rural linkages. Rather, the predominant characteristic of female accumulators seems to be their membership in the middle class. Women's ability to accumulate capital, despite an income insufficient to cover a normal salary for the owner, may be the result of the greater financial security associated with middle class status. Both of these findings support the contention that men and women in similar productive activities may have quite different experiences. I, therefore, advance the hypothesis that women business owners differ from their male counterparts in social class and in the strength of their rural linkages.

Export Potential

Medium and large-scale firms have begun to sell into the European markets (Coughlin 1987: 21). To compete they must be fairly efficient users of capital and labour. Undoubtedly their advantage lies primarily in Kenya's relatively low wage levels. Mody and Wheeler (1987) believe that low-wage countries using labour-intensive technologies can compete in the world textile market, despite the trend towards computerized production in industrialized countries. Successful penetration of the export market, however, requires not only low wages, but also reasonable productivity, consistently acceptable quality, and the ability to fill orders in a timely manner. In addition to these supply issues, exporting needs links with the external market and a favourable policy environment. I hypothesize that Kenya's medium- and large-scale garment manufacturers are more likely to satisfy these requirements than are small-scale producers.

THE MODELS

Because the research attempts to verify earlier findings, its main models will be refined versions of the two previously identified success types: the small-and-flexible business and the accumulating firm. The effects of ethnicity and the profitability of women's firms will be tested using a simple comparison of sample proportions, while export potential of small-scale producers will be assessed using a combination of multiple regression and qualitative analysis.

The Small-and-Flexible Model

The small-and-flexible model uses discriminant analysis to separate profitable from unprofitable firms. The three discriminating variables, flexibility (FLEX), size (SIZE), and age category (AGECAT) give rise to canonical discriminant function, z , of the form

$$z = a_1 \text{ FLEX} + a_2 \text{ SIZE} + a_3 \text{ AGECAT}.$$

For the wide range of businesses observed in 1986, the model used separate functions for more and less formal businesses. Because garment-makers tend to be uniformly more formalized than, for example, carpenters or metal workers, I believe that the separation into two halves of the formality continuum will not be necessary.

Accumulating Firms

Data from the previous research were insufficient for developing a mathematical model for accumulating firms. As a result of the present research, I hope to establish the relationship of rural linkages and social class to capital accumulation by means of a multiple regression model.

The proposition that garmentmakers who accumulate capital have weaker rural linkages than other garmentmakers can first be tested by a simple comparison of mean rural scores for accumulating and non-accumulating firms. The rural index (RURAL*) is defined as the sum of four variables: R_1 , rural acreage under cultivation; R_2 , a dummy variable representing residence of spouse in rural or urban area; R_3 , the number of visits to the rural area per year; and R_4 , net urban-to-rural cash remittances.

Testing the hypothesis that capital accumulation is more likely to occur in businesses in which the owner is at least middle-class requires determining each business owner's class position. Business owners will be categorized according to the schema in Figure 1. For purposes of this study, an expert is an individual with at least a Kenya Certificate of Advanced Education ("A-level") and a recognized professional or technical skill. A manager is a person who controls and directs some aspect of the activities of government, industry, or a non-profit organization. A business owner will be considered to be middle-class ($M = 1$) if at least one of the following conditions holds: the owner is an employer not actively engaged in production; the owner is an expert and/or a manager outside of the subject business; or the spouse or close relative of the owner is an expert or manager, and that person would be willing to assist the business owner with financial or organization assets. Otherwise, the business owner is not middle-class ($M = 0$). The hypothesis will be supported if a crosstabulation of accumulation (ACCUM) by middle class status (M) shows middle class status to be a good predictor of accumulation.

The two hypotheses regarding capital accumulation can then be combined in a single multiple regression model of the form:

$$r = a_1 \text{RURAL}^* + a_2 M + a_3$$

where r is the average rate of capital accumulation since the firm's beginning, $a_1 < 0$, and $a_2 > 0$.

Ethnicity

The importance of ethnicity will first be estimated by taking crosstabulations of ethnic affiliation with business profitability and capital accumulation. If, as hypothesized, these show no significant relationship, the ethnic variable will be dropped from further consideration. If, on the other hand, ethnicity appears important, it will be incorporated into the models.

Profitability of Women's Firms

In 1986 only 54 percent of women's small-scale manufacturing firms were profitable. If, as was thought then, the high incidence of unprofitability resulted from the relative newness of women's businesses, the elapse

of three years should have allowed more women's businesses to become profitable. The hypothesis will be supported if significantly more than 34 percent are profitable in 1989. The exact improvement needed to sustain the hypothesis will depend on the number of women in the 1989 sample. If, as expected, the sample contains approximately 100 businesses owned by women, then an observed success rate of at least 57 percent will provide 95 percent confidence of an improvement in the profitability of women's firms.¹²

Export Potential

The supply side of firms' export potential can be judged by examining capital-output and labour-output ratios, product quality, and the consistency of production. If S_1 represents the capital-output ratio; S_2 , the labour-output ratio; S_3 , a quality index; and S_4 , a production-flow index, then the hypothesis is supported if firm size (SIZE) is positively correlated with each of the variables. This can be restated as a multiple regression equation of the form

$$\text{SIZE} = a_1 S_1 + a_2 S_2 + a_3 S_3 + a_4$$

where $a_i > 0$, for $i = 1, 2, 3$.

Issues of links with the export market and the policy environment will be investigated and assessed qualitatively.

RESEARCH METHODOLOGY

The research methodology will combine sample surveys and non-random interviews to obtain information from garment manufacturers, suppliers, wholesalers, and retailers. The study will include all businesses making or selling new clothing within the city of Nairobi, as well as large national garment manufacturers located in other parts of the country.

The combination of survey and non-random interviews should provide both breadth and depth of understanding of industry operations. The survey method allows the researcher to obtain generalizable results. This is particularly important, given the potential policy implications of the study. Furthermore, since this part of the research is a refinement of the earlier survey, the use of similar methodology is appropriate. Non-random interviews permit examination of trends that emerge during the initial survey, provide a vehicle for verifying responses, and allow for selection of respondents for interview based on criteria other than those used for selection of the random sample.

The survey will provide information on firm profitability, capital accumulation, owners' rural linkages, and social class. The first step, which has already begun, is to list all garment manufacturers, wholesalers, and retailers based within Nairobi city limits. The census includes information on firm location, ownership, activities, and number of workers. Enumerators are also identifying firms interviewed in the 1986 sample survey.

The resulting list will give rise to three sublists: garment manufacturers, wholesalers and retailers, and the 103 tailors and dress-makers interviewed in 1986. From the first list, a random sample, stratified according to number of employees and sex of business owner, will be selected. I estimate that approximately 200 businesses will be surveyed. The survey, which will be conducted as a structured interview with a combination of open-ended and closed-ended questions, will have four parts. The first will be a lengthy preliminary interview to gather business owners' personal data, financial information on the firm, and details of supply channels, product markets, and competition. Three short follow-up interviews at two-to-three-month intervals will repeat the financial survey and update market information. Interviewing will be in English or Kiswahili, with the choice of language left to the respondent.

A small random sample drawn from the list of wholesalers and retailers will seek information on supply channels. The purpose of this is to determine whether clothing sold in Nairobi is made mainly by local small- or large-scale manufacturers or comes from the large companies located elsewhere.

All of the firms surveyed in 1986 will be interviewed briefly. Those still in business will be asked about the number of employees and level of capital, in order to determine their growth or decline since 1986. Every attempt will be made to find out from owners of businesses no longer operating whether they failed or closed for non-financial reasons.

The second component of the research involves non-random interviews of manufacturers and their suppliers and customers. The supplier and customer interviews should provide independent verification of the nature and variability of market relations, while the business-owner interviews allow for follow up of trends emerging from the survey. Both sets of non-random interviews will be conducted after preliminary analysis of data from the initial survey. The number of non-random interviews to be undertaken will depend largely on the variability observed in the initial survey.

CONCLUSIONS

The proposed research should provide important information about Kenya's garment industry. If, as expected, the data support the two basic patterns of success identified for small-scale manufacturing in general, then Kenya can expect continued proliferation of small tailoring and dress-making establishments. This kind of growth, while providing a reasonable income for business owners and employment for semi-skilled operatives, is unlikely to result in significant capital accumulation. It is also unlikely without some sort of organizing mechanism to yield output of the magnitude and uniform quality required for export.

Medium- and large-scale garment manufacturers are an unknown force in the industry. If, as hypothesized, they are relatively efficient, they may squeeze out the small producers in the domestic market. Whether they can also compete internationally will depend, not only on their own operations, but also on government policy and the development of technology in industrialized nations.

NOTES

1. For review of this literature see Moser (1978, 1984), Dick and Rimmer (1980), Bryant (1982), Hugon (1982), Richardson (1984).
2. The term "Third World" is not without problems. The numerical designation accurately conveys the present state of subordination of these countries to more powerful forces in the international economy. Unfortunately, it also suggests that the countries are somehow inferior to those of the First and Second Worlds. Yet, since none of the currently available alternatives is completely satisfactory, I have continued to use "Third World" when referring to the group of countries or areas characterized by widespread poverty, lack of access to modern technology, and lack of power in the international economic system.
3. The dual economy was conceived in Dutch colonial literature, discussed by Furnival (1948: 303-04), and developed at length by Boecke (1953) and Lewis (1955). Later, Fei and Ranis (1961, 1964), Jorgenson (1961, 1967), and others extended it. A good summary and critique of dual economy models from a neo-classical perspective is in Ghatak (1986: pp. 62-81).
4. I use "informal sector" when referring to works which use the term. Otherwise, I favor expressions such as small-scale manufacturing, small enterprise, small urban production, or small businesses because they better describe the enterprises I studied.
5. The recent demolition of kiosks by the Nairobi City Commission reopens the question of the seriousness of the government's commitment to small enterprise (The Daily Nation, 20 January 1989).
6. This proposal draws extensively on research into small-scale manufacturing carried out in Nairobi in 1985-86. Details of that research presented in my Ph.D. dissertation (McCormick 1988) and related articles (McCormick 1987, forthcoming), are referred to without citation.
7. Some might argue that this reasoning leads to an inflated membership in the middle class, since almost everyone knows someone with superior physical, organizational, or skill assets. This is erroneous for two reasons. First, the strong family ties in African society that require well-off persons to assist their relatives do not similarly bind friends and acquaintances. Thus, only spouses and relatives are considered in judging class position. Second, middle-class or bourgeois relatives are not in themselves sufficient to guarantee membership in a particular class. To render another middle-class, a person must be willing to put physical, skill, or organizational assets at the other's disposal.
8. This is not surprising, since presumably many marginal firms go out of business during their early years, and others experience an initial period of losses while they establish themselves.
9. The proportional reduction in error statistic, tau, was .742 for less formal firms and .468 for more formal.
10. In 1985 gross output of clothing by all firms and establishments including large-scale ones, was K£ 15,398,000. Gross output of large-scale establishments was K£ 9,934,000, implying that small and medium size firms accounted for approximately 35% of gross output (Kenya 1986: 123-24). In fact, this calculation probably understates small firms' production.

11. A census conducted in early 1986 counted 1,139 businesses of ten or fewer workers engaged in the manufacture of clothing and other made-up textile products in Nairobi's Eastlands (McCormick 1988: 100). The remainder of the city probably includes approximately the same number of dressmakers and tailors.
12. A 95% confidence interval for the difference in two proportions for large independent samples, n_1 and n_2 , is given by the equation:

$$(\pi_2 - \pi_1) = (P_1 - P_2) \pm 1.96 \sqrt{\frac{P_1(1 - P_1)}{n_1} + \frac{P_2(1 - P_2)}{n_2}}$$

Substitution the value, $\pi_1 - \pi_2 < 0$, $P_1 = .34$, $n_1 = 49$, and $n_2 = 100$, and solving for P_2 yields the result $P_2 = .57$.

REFERENCES

- Abadie, Nhu Le. 1982. "La sou-traitance: Complémentarité ou subordination du secteur informel." In Isabelle Deblé and Philippe Hugon, ed., Vivre et survivre dans les villes africaines, pp. 193-201. Paris: Presses Universitaires de France. 1981.
- Amjad, Rashid. / The Development of Labour Intensive Industry in ASEAN Countries. Geneva: International Labour Organization.
- Anderson, Kym, and Young-il Park. Forthcoming. "China and the International Relocation of World Textile and Clothing Activity," Weltwirtschaftliches Archiv.
- Banerjee, Nirmala. 1982. "Survival of the Poor." In Helen I. Safa, ed., Towards a Political Economy of Urbanization in Third World Countries, pp. 175-85. Delhi: Oxford University Press.
- Bernard, Chantal. 1980. "Les Activités dites non exploiteuses: Recherche sur la signification du concept de 'petite production marchande' en milieu urbain à partir de quelques cas Algériens," Revue Tiers Monde 21: 307-19.
- Berry, Sara. 1985. Fathers Work for Their Sons: Accumulation, Mobility, and Class Formation in an Extended Yoruba Community. Berkeley: University of California Press.
- Boeke, J.H. 1953. Economics and Economic Policy of Dual Societies. New York: International Secretariat, Institute of Pacific Relations.
- Breman, Jan. 1976. "A Dualistic Labour System? A Critique of the 'Informal Sector' Concept," Economic and Political Weekly 11: 1870-76, 1905-08, 1939-44.
- Bromley, Ray (ed). 1985. Planning for Small Enterprises in Third World Cities. Oxford: Pergamon Press.
- _____, and Gerry, Chris. 1979. "Who Are the Casual Poor." In Ray Bromley and Chris Gerry, eds., Casual Work and Poverty in Third World Cities, pp. 3-23. New York: John Wiley & Sons.
- Bryant, John. 1982. "An Introductory Bibliography to Work on the Informal Economy in Third World Literature." In Ray Pahl and Julian Laite, Bibliographies on Local Labour Markets and the Informal Economy, pp. 1-9. London: Social Science Research Council.
- Bujra, Janet M. 1979. "Proletarianization and the 'Informal Economy': A case Study from Nairobi." African Urban Studies 3: 47-66.
- Charmes, Jacques. 1980. "Les contradictions du développement du secteur non structuré," Revue Tiers Monde 21: 321-35.
- Child, Frank C., and Kempe, Mary E., eds. 1973. "Small Scale Enterprise." Occasional Paper No. 6. Nairobi: University of Nairobi, Institute for Development Studies.
- Chuta, Enyinna, and Liedholm, Carl. 1985. Employment and Growth in Small-scale Industry: Empirical Evidence and Policy Assessment from Sierra Leone. New York: St. Martin's Press.

- Collier, Paul, and Lal, Deepak. 1986. Labour and Poverty in Kenya. Oxford. Clarendon Press.
- Coughlin, Peter. 1987. "The Gradual Maturation of an Import Substitution Industry: The Textile Industry in Kenya," mimeo.
- Cowen, Michael P. and Kinyanjui, Kabiru. 1977. "Some Problems of Capital and Class in Kenya." Discussion Paper. Nairobi: University of Nairobi, Institute for Development Studies.
- Deblé, Isabelle, and Hugon, Philippe (eds). 1982. Vivre et survivre dans les villes Africaines. Paris: Presses Universitaires de France.
- Dick, H.W., and Rimmer, P.J. 1980. "Beyond the Formal/Informal Sector Dichotomy: Towards an Integrated Alternative," Pacific Viewpoint 21: 26-41.
- Ekeh, Peter P. 1986. "Development Theory and the African Predicament," African Development 11 (4): 1-33.
- Fei, J.C., and Ranis, G. 1961. "A Theory of Economic Development," American Economic Review 51: 533-65.
- _____. 1964. Development of the Labour Surplus Economy: Theory and Policy. Homewood, Ill: Irwin.
- _____, and Kuo, S.W.Y. 1980. Growth with Equity: The Taiwan Case. New York: Oxford University Press.
- Folbre, Nancy. 1986. "Cleaning House: New Perspectives on Households and Economic Development," Journal of Development Economics 22: 5-40.
- Furnival, John S. 1948. Colonial Policy and Practice: A Comparative Study of Burma and Netherlands India. Cambridge: Cambridge University Press.
- Ghatak, Subrata. 1986. An Introduction to Development Economics, 2nd edition. London: Allen & Unwin.
- Hart, Keith. 1973. "Informal Income Opportunities and Urban Employment in Ghana." Journal of Modern African Studies 11: 61-89.
- Hoffman, Kurt. 1985. "Clothing, Chips and Competitive Advantage: The Impact of Microelectronics on Trade and Production in the Garment Industry," World Development 13: 371-92.
- House, William J. "Nairobi's Informal Sector: An Exploratory Study." In Tony Killick, ed., Papers on the Kenyan Economy, pp. 357-68. Nairobi: Heinemann.
- Hugon, Philippe. 1982. "Secteur souterrain ou reseaux apparents." In Isabelle Deblé and Philippe Hugon, ed., Vivre et survivre dans les villes africaines, pp. 26-49. Paris: Presses Universitaires de France.
- International Labour Office. 1972. Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya. Geneva: International Labour Office.

- Isaaka, Z.O., Ndegwa, W.K. and Kisobi, I.D. 1982. "The Status of the Textile Industry in Kenya." Nairobi: Industrial Promotion Department, Ministry of Commerce and Industry.
- Jorgenson, D.W. 1961. "The Development of a Dual Economy," Economic Journal 71: 309-34.
- _____. 1967. "Surplus Agricultural Labour and the Development of a Dual Economy," Oxford Economic Papers 19: 288-312.
- Kenya. 1977. "Kenya's Textile Industry." Nairobi: Industrial Survey and Promotion Centre, Ministry of Commerce and Industry.
- _____. 1985. "Survey of Rural, Non-agricultural Enterprises, 1985." Photocopy.
- _____. 1986a. Economic Management for Renewed Growth. Sessional Paper No.1 of 1986. Nairobi: Government Printer.
- _____. 1986b. Statistical Abstract, 1986. Nairobi: Government Printer.
- Kitching, Gavin. 1980. Class and Economic Change in Kenya: The Making of an African Petite Bourgeoisie, 1905-1970. New Haven: Yale University Press.
- Klecka, William R. 1980. Discriminant Analysis. Beverly Hills: Sage Publications.
- Langdon, S. 1984. "Indigenous Technological Capacity in Africa: The Case of Textiles and Wood Products in Kenya." In M. Fransman and K. King (eds.), Technological Capability in the Third World. London: Macmillan Press.
- Leo, Christopher. 1984. Land and Class in Kenya. Toronto: University of Toronto Press.
- Lewin, A.C. 1985. "The Dialectic of Dominance: Petty Production and Peripheral Capitalism." In Ray Bromley, ed., Planning for Small Enterprise in Third World Cities, pp. 107-35. Oxford: Pergamon Press.
- Lewin, W. Arthur. 1955. Theory of Economic Growth. London: Allen and Unwin.
- Lipton, Michael. 1984. "Family, Fungibility, and Formality: Rural Advantages to Informal Non-farm Enterprise versus the Urban-formal State." In Samir Amin, ed., Human Resources, Employment and Development Volume 5: Developing Countries, pp. 189-242. Proceedings of the Sixth World Congress of the International Economic Association held in Mexico City, 1980s. New York: St. Martin's Press.
- Little, Ian; Mazumdar, Dipak, and Page, John. 1987. Small Manufacturing Enterprises: A Comparative Study of India and Other Countries. New York: Oxford University Press.
- MacGaffey, Janet. 1988. "Evading Male Control: Women in the Second Economy in Zaire." In Sharon B. Stichter and Jane L. Parpart, eds., Patriarchy and Class: African Women in the Home and the Workforce, pp. 161-76. Boulder, Co: Westview Press.
- Macharia, Kinuthia. 1988. "Social Networks: Ethnicity and the Informal Sector in Nairobi." Working Paper No. 463. Nairobi: University of Nairobi, Institute for Development Studies.

- Manly, Bryan F.J. 1986. Multivariate Statistical Methods: A Primer. London: Chapman and Hall.
- Mathias, Gilberto. 1983. "Urbanisation et sous-developpement: Secteur informel et strategies de survie," Revue Tiers Monde 25: 21-39.
- Mazumdar, Dipak. 1976. "The Urban Informal Sector," World Development 4: 655-79.
- McCormick, Dorothy. 1987. "Fundis and Formality: Very Small Manufacturing in Nairobi." In Michael G. Schatzberg, ed., The Political Economy of Kenya, pp. 161-76. New York: Praeger.
- _____. 1988. "Small Manufacturing Enterprise in Nairobi: Golden Opportunity or Dead End?" Ph.D. dissertation, The Johns Hopkins University, Baltimore.
- _____. Forthcoming. "Success in Urban Small-scale Manufacturing: Implications for Economic Development." In Peter Coughlin, ed., Industrialization in Kenya. Nairobi: Heinemann.
- Mody, A. and Wheeler, D. 1987. "Towards a Vanishing Middle: Competition in the World Garment Industry," World Development 15: 1269-84.
- Moser, Caroline O.N. 1978. "Informal Sector or Petty Commodity Production: Dualism or Dependence in Urban Development?" World Development 6: 1041-64.
- _____. 1984. "The Informal Sector Reworked: Viability and Vulnerability in Urban Development," Regional Development Dialogue 5: 135-78.
- Ndua, Gichiri, and Ng'ethe, Njuguna. 1984. "Education, Training and Welfare in the Informal Sector: A Study of Carpentry and Metal Work in the Eastlands of Nairobi, Kenya," Nairobi: Institute for Development Studies. Mimeo.
- Nihan, Georges. 1980. "Le secteur non structure: Signification, aire d'extension du concept et application experimentale," Revue Tiers Monde 21: 262-84.
- Noormohamed, S.E. 1985. "Development Strategy for the Informal Sector: The Kenyan Experience." In P. Ndegwa, L.P. Mureithi, and R.H. Green, eds., Development Options for Africa in the 1980s and Beyond, pp. 186-93. Nairobi: Oxford University Press.
- Norusis, Marija. 1986. Advanced Statistics SPSS/PC+. Chicago: SPSS Inc.
- Nyangira, Nicholas. 1987. "Ethnicity, Class, and Politics in Kenya." In Michael G. Schatzberg, ed. The Political Economy of Kenya, pp. 15-31. New York: Praeger.
- Peattie, Lisa. 1982. "What is to be Done with the 'Informal Sector'? A Case Study of Shoe Manufacturers in Colombia." In Helen I. Safa, ed., Towards a Political Economy of Urbanization in Third World Countries, pp. 208-32. Delhi: Oxford University Press.

- Richardson, Harry W. 1984. "The Role of the Urban Informal Sector: An Overview," Regional Development Dialogue 5: 3-40.
- Roberts, Bryan. 1978. Cities of Peasants: The Political Economy of Urbanization in the Third World. Beverly Hills, CA: Sage Publications.
- Robertson, Claire C. 1984. Sharing the Same Bowl: A Socio-economic History of Women and Class in Accra, Ghana. Bloomington: Indiana University Press.
- _____. 1988. "Invisible Workers: African Women and the Problem of the Self-Employed in Labour History," Journal of Asian and African Studies 23: 180-98.
- Roemer, John. 1982. A General Theory of Exploitation and Class. Cambridge, MA: Harvard University Press.
- _____. 1986. "New Directions in the Marxian Theory of Exploitation and Class." In John Roemer, ed., Analytical Marxism, pp. 81-113. Cambridge: Cambridge University Press.
- Schatzberg, Michael G. 1980. Politics and Class in Zaire: Bureaucracy, Business, and Beer in Lisala. New York: Africana Publishing Company.
- Schmitz, Hubert. 1982. Manufacturing in the Backyard: Case Studies on Accumulation and Employment in Small-scale Brazilian Industry. London: Frances Pinter.
- Sethuraman, S.V. 1976. "The Urban Informal Sector: Concept Measurement and Policy," International Labour Review 114: 69-81.
- Sklar, Richard. 1979. "The Nature of Class Domination in Africa," Journal of Modern African Studies 17: 531-52.
- Stichter, Sharon B. 1988. "The Middle-Class Family in Kenya: Changes in Gender Relations." In Sharon B. Stichter and Jane L. Parpart, eds., Patriarchy and Class: African Women in the Home and the Workforce, pp. 177-204. Boulder, CO: Westview Press.
- Tostensen, Arne. 1986. "Between Shamba and Factory: Preliminary Results from a Study of Oscillatory Labour Migration in Kenya." Working Paper No. 423. Nairobi: University of Nairobi, Institute for Development Studies.
- United Nations Industrial Development Organization (UNIDO). 1987. Textile Policy Issues in Developing Countries. New York: United Nations.
- _____. 1988. Kenya: Sustaining Industrial Growth Through Restructuring and Integration. New York: United Nations.
- Vahtokari, Kalervo V. 1985. "Survey on the Textile Market in Sri Lanka in 1983-85." Photocopy (UNDTCD).
- Wallace, Tina. 1973. "Working in Rural Buganda: A Study of the Occupational Activities of Young People in Rural Villages," The African Review 3: 135-78.

Weeks, Sheldon. 1973. "Where Are All the Jobs? The Informal Sector in Bugisu, Uganda," The African Review 3: 111-32.

Zarenda, H. 1980. "Imperfections in the Urban Informal Sector Market Model," South African Journal of Economics 48: 297-305.