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GROWTH AND THE ORGANISATION OF PRODUCTION
Case Studies from Nairobi's Garment Industry

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ABSTRACT

Most enterprises in Nairobi's garment industry begin small and stay that way. Owners of businesses selected for intensive study consider weak demand to be the major barrier to growth. Current theories of industrial organisation identify two clearly different production models: Mass production, rooted in the advantages of scale economies; and flexible specialisation, a paradigm focusing on flexibility and innovation. Analysis of market relations in Nairobi's garment industry reveals not two, but five different types of firms: custom tailors, contract workshops, specialised small producers, mini-manufacturers, and mass producers. Preliminary research indicates that some types can cope with weak and fluctuating demand better than others. Contract workshops, specialised small producers, mass producers capable of tapping external markets, and high quality custom tailors have the greatest potential for success, while low-to-medium quality custom tailors, mini-manufacturers, and mass producers tied to the domestic market have the least. The analysis has important implications for the shape of Kenyan industry, employment creation, and entrepreneurship. It also suggests that interventions by government and/or NGOs need to be targeted, not at small and medium-size firms in general, but at the most promising types of producers.

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1. Introduction

Nairobi's tailors, dressmakers, and small clothing workshops typify the small enterprises that the Kenya government expects to lead the economy towards industrial development and full employment (Kenya 1988, 1992). They use simple technology to produce basic, often low quality goods for the domestic market (Abuodha and King 1993, McCormick 1993). Most firms begin small and stay that way (McCormick 1988, 1993).

Explanations for the existence and growth of small-scale industry in Africa have multiplied since the International Labour Office "discovered" informal activities in the early 1970s (ILO 1972). Early research tended to treat small enterprise as a phenomenon entirely different from the rest of industry. Dual economy models spawned the concept of a separate "informal sector" while neo-Marxist theory talked of petty producers eking out a living on the margins of society. In both views, small enterprise was mainly a survival mechanism for the poor that had little, if any, impact on industrial development.

Small enterprise has gained prestige in recent years, but analysis of its problems and potential contribution to development still suffers from a tendency to treat small businesses as qualitatively different from larger industrial firms. Few industry studies consider the full size range of firms. As a result, the problems small businesses share with other firms in their industry may be ignored or their source erroneously attributed to their small size. Lack of industry-specific information on small establishments also makes it difficult to appreciate the range of technology and plant organisation within given industries.

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Strengthening Kenya's economy through small enterprise development requires growth, not only in number, but also in size of firms. Research elsewhere suggests that larger small firms -- those with 11-50 workers -- use both labour and capital more efficiently than do the tiny units prevalent in Kenya (Little, Mazumdar, and Page 1987). To increase output and create jobs for the ever increasing supply of young, unskilled school leavers, Kenya needs to encourage firms to grow into this small-to-medium range.

This paper presents preliminary results of an on-going effort to identify barriers to small-firm growth. The research, undertaken on the clothing industry in Nairobi, identifies weak and fluctuating demand as the chief reason why small firms fail to grow. It also suggests a typology of small garment firms based on their different market relations that can be used to identify the firms most likely to grow. Part 2 of the paper sets the theoretical context by presenting two paradigms of industrialisation. Part 3 examines the organisation of Nairobi's garment industry. Part 4 analyses the interrelationships between demand, organisational models, and firm growth, while Part 5 traces the implications of the findings for Kenya's industrialisation process. Part 6 draws tentative conclusions about the usefulness of the paradigms for explaining the organisation of Kenyan industry and for developing positive interventions.

2. The Organisation of Production: Two Paradigms

Two clearly different models of industrial production exist in both developed and developing countries. On the one hand is mass production, rooted in the process used by large-scale firms in industrialised countries. On the

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other is a paradigm that focuses on flexibility and innovation, and often -- in developing countries at least -- results in a manufacturing process closely resembling craft production. Yet, as our research will show, not all mass producing firms are large, nor do all small-scale firms use craft technology.

2.1 *Mass Production: The Legacy of Henry Ford*

Although *Fordism* has become synonymous with mass production, the production processes that bear his name originated half a century before Henry Ford's birth. Throughout the nineteenth century, factory owners developed processes aimed at making large quantities of standardised products using specialised machines and relatively unskilled labour. The 'Model T' epitomises both the marketing and the production dream of early twentieth-century industrialists. Ford wanted to produce a reliable form of transportation that the average consumer could afford. He relied on economies of scale to expand the market once the basic product design had been fixed. Although Ford's success was eventually overtaken by the creative marketing strategies of General Motors, the fact remains that mass production thinking came to dominate the industrialised world.

Mass production rests theoretically on the advantages of scale economies. Stable markets, factor-cost reduction, and economies of scale are the key variables (Rasmussen, Schmitz, and van Dijk 1992). Mass producing firms have developed standardised products that allowed them to invest in specialised machinery; enhanced productivity by dividing the production process into small, specialised tasks; managed production with a top-down flow of authority and information; designed their factories to reflect the process

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of specialisation and standardisation; and dealt with suppliers, competitors, and customers at arms length in order to maximise profits (Kaplinsky 1991).

Market realities, especially in developing countries, can make it difficult to translate the theoretical advantages of mass production into profits. The relationship between capital and labour costs on the supply side, and the size and nature of product markets on the demand side means that, despite technical efficiency, large-scale production is often not economically viable.

2.2 Mass Production Challenged: The Flexible Specialisation Paradigm

Even in developed countries, some observers contend that the key to prosperity lies in moving away from rigid mass production of standardised goods towards a more innovative and flexible system of multipurpose machines operated by skilled workers able to respond to continuous change (Piore and Sabel 1984, Hirst and Zeitlin 1989). An innovative system, they argue, can succeed by producing differentiated products serving different market "niches." In such a system, skilled workers operate general purpose machines capable of making a wide range of products.

The new productive organisation and technology has variously come to be called flexible specialisation, post-fordism, systemofacture, and "the new competition." The model's basic definition centres on technology, skills, and output (Schmitz 1989). Flexibility and innovation permeate every aspect of the firm to determine the organisation of production, the nature of the workforce, and the characteristics of products. Greater output specialisation requires changes in work practices and fundamentally alters the social relations of

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production. Instead of workers along an assembly line doing repetitive, specialised tasks, production more closely resembles craft or artisanal methods. In small workshops, skilled workers make entire products. In larger factories, production is organised into modular units, or mini-factories, producing large segments of the final product. Workers not only execute the work, but participate in its conception. As a result, flexible specialisation demands greater trust between management and workers and more worker involvement in technological improvements (Schmitz 1989, Kaplinsky 1991). Because product variety, quality, style, and innovation are central, design and marketing take on new importance (Kaplinsky 1991).

Schmitz (1992) suggests that, for small firms, geographic location is as important as size. Small firms can reap the benefits of division of labour by clustering together. The clustering allows for specialisation among the firms, thereby opening up efficiency and flexibility gains nearly impossible for individual small producers to attain.

The original flexible specialisation literature analysed industry in the Far East, Scandinavia, and within particular regions of older industrialised countries. Recently scholars have suggested that the paradigm may also have important implications for small-scale industry in developing countries (Schmitz 1989, 1990; Schmitz and Musyck 1993; Sverrisson 1992; Rasmussen 1992; Pedersen 1993). Schmitz (1989, 1990), for example, points out that the model's emphasis on the capacity to adapt to the disruptive circumstances may make flexible specialisation especially appropriate for developing country industry (Schmitz 1989). Pedersen (1993) offers three "sub-models" based on his observations in European and African countries: the "high road" that invests

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in multipurpose machinery and employs skilled labour; the "low road" in which business owners minimise their investments in machinery and rely on unskilled labour that can be hired and fired at short notice; and what might be called the "subsistence path" in which tiny, often household-based enterprises operate in a semi-subsistence economy. The "low road" and, to an even greater extent, the "subsistence path" correspond roughly to McCormick's (1988, 1991) "small-and-flexible" model of small-scale manufacturing.

The flexible specialisation paradigm also recognises the close relationship between demand and the organisation of production. Our own research suggests that these are, in turn, related to a firm's ability to grow.

2.3 *The Paradigms Compared*

The flexible specialisation and mass production paradigms are compared in Figure 1. Mass production realises economies of scale by organising unskilled labour into highly specialised tasks that can benefit from use of special-purpose machinery. Inputs are generally bought in arms-length transactions in which price is a major consideration. Labour is simply one of the costs of production, to be minimised as far as possible. The resulting products are highly standardised and competitively priced. Flexible specialisation, in contrast, makes goods suited to particular customers or market niches. General purpose machinery allows the producer to switch from one product to another according to particular demands. Labour is seen as a resource enabling the producer to satisfy the customer's wishes and must, therefore, have particular skills. Raw materials are as varied as the

products. If they are not supplied by the contractor, they are purchased as needed. Firms often have working relations with a variety of suppliers to facilitate their getting the type of materials they need when they need them.

Figure 1: Contrasting Characteristics of Mass Production and Flexible Specialisation

Paradigm	----- Supply Markets -----			Product Markets
	Raw Materials	Labour	Machinery	
Mass Production	Standard materials; arms-length dealings; price a major concern.	Unskilled labour suitable for minute division of labour	Special-purpose machines; fixed assembly line	Standard product; mass external or internal markets; competition on price
Flexible Specialisation	Varied materials; supplied by customer or in close cooperation with supplier	Skilled labour able to make whole products	General purpose machines; modular or no assembly line	Varied products, often high fashion; specialised external or internal markets; competition on product characteristics

Paradigms are conceptual models that fit reality with varying degrees of accuracy. Sectoral differences and, perhaps more importantly, differences between developed and developing countries, can obscure certain characteristics of a paradigm and highlight others. We, therefore, approached our examination of Nairobi's garment industry, from two angles. We first

looked for evidence of either of the two paradigms in the organisation of our case study firms. We then set the paradigms aside and analysed the market relations observed in the full sample in order to identify distinct firm types.

Table 1: Size Distribution of Garment Firms in Nairobi

Workers in Firm	Firms		Regular Workers	
	Number	Percentage	Number	Percentage
<u>Very Small</u>				
1 person	747	33.9	747	6.4
2-3 persons	909	41.3	2,145	18.5
4-6 persons	413	18.8	1,962	16.9
<u>Small</u>				
7-10 persons	68	3.1	511	4.4
<u>Medium</u>				
11-50 persons	32	1.5	774	6.7
<u>Large</u>				
over 50 persons	31	1.4	5,468	47.1
TOTALS	2,200	100.0	11,607	100.0

Source: Field census, January-February 1989.⁵

3. Organisation of Nairobi's Small Garment Firms

Nairobi's garment firms are many, varied, and mostly very small (see

Table 1). Over 90% of the firms have fewer than seven workers, and even the few "large-scale" factories employ an average of only 170 workers. The industry manufactures a full range of garments. Most are for the domestic market, though export production is growing (McCormick 1992a). Technology in Nairobi, as in the industry world-wide, is labour-intensive.

3.1 Models of Firm Organisation

The firms fall into five organisational models, and even these are subject to variations. The first and apparently largest group consists of custom tailors, who produce men's and women's garments to order. The owner of the business is often a tailor who employs between two and five other skilled tailors. One could argue that such firms are not manufacturers at all. Some custom tailors are mainly providers of labour who require the customer to supply the cloth and, sometimes, other inputs such as buttons, zippers, or lining. Others are fabric retailers who employ tailors as a service to their customers. The second category is the group of contract workshops. Like custom tailors, these firms will make whatever a customer wants. Contract workshops, however, produce in quantity. A workshop may make an order of fifty uniforms for bank employees, provide choir robes for a local church, or outfit a complete wedding party. Sometimes the firm supplies the cloth, sometimes the customer does. The typical contract workshop uses a production process with little or no division of labour, though some consider cutting the cloth as a task important enough to be reserved to one person. Skilled tailors, often hired only for the duration of a particular contract, are expected to sew entire garments. The third category we call specialised small producers. These

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firms are true manufacturers who purchase all their inputs and produce finished garments for the market. Their products -- high fashion garments made of expensive materials -- are marketed through specialty shops in town or in shopping centres in high income neighbourhoods. They maintain the high-fashion image by limiting quantities of their designs. To keep quality high, they use skilled workers for cutting, sewing, and finishing. The fourth group of firms, **mini-manufacturers**, use a scaled-down version of mass production technology. Such firms generally specialise in one or two products, such as boys' school uniform shorts, women's petticoats, or men's trousers. They may use a combination of skilled and unskilled workers, and often have some rudimentary division of labour. Garment manufacture may, for example, be divided into cutting, assembling, finishing, and pressing. The final group consists of **mass producers** who manufacture standardised goods for the mass market using assembly line production techniques.

These somewhat intuitive descriptions of the five firm types can be made more concrete by examining their differing relationships to input and product markets (see Figure 2). It is also interesting to note that only in the case of the custom tailor is the owner nearly always a skilled tailor. In the other models, managerial ability and entrepreneurship are more important than technical skill.

The typology reveals elements of the two paradigms. The organisation of mini-manufacturers and mass producers strongly resembles the mass production model. Contract workshops and specialised small producers, on the other hand, appear to be variants of flexible specialisation. Custom tailors are, as indicated earlier, hardly true manufacturers at all.

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The mini-manufacturer and mass producer both attempt to realise economies of scale in producing standard garments for a fairly broad market. They use division of labour and specialised machines. They also produce in sufficient volume to obtain some price concessions on their inputs. One could argue that mini-manufacturers are simply mass producers who remain at a suboptimal size. Yet they seem to warrant a separate category because their smaller size limits their ability to divide production tasks and also forces them to deal more personally with suppliers, competitors, and customers than the true mass producer.

Mini-manufacturer	Small scale, high volume production of standard garments.	Uses division of labour and specialised machines.	Obtains price concessions on inputs due to volume.	Deals personally with suppliers, competitors, and customers.
Mass producer	Large scale, high volume production of standard garments.	Uses division of labour and specialised machines.	Obtains price concessions on inputs due to volume.	Deals with suppliers, competitors, and customers through intermediaries.

Figure 3

Garment Industry Study

Case Study Interviews

From our research to date, it appears that the major factors that could determine whether a given business grows or not are:

1. **Risk and business owners' responses to risk**
Doing business in Nairobi is risky. The sensible business owner has to protect himself/herself from loss. Otherwise the whole family suffers.
2. **Demand**
Demand for most types of new clothing is weak, so unless a firm has an unusual product or a way to sell their output outside of Nairobi (or even outside of Kenya), it cannot expand. Also the availability of second hand clothes is a big problem.
3. **Economies of scale**
Big firms can produce more cheaply than small ones because they can get their materials at discounted prices. That means small firms cannot compete with big ones and are blocked from growing.
4. **Entrepreneurship**
Expanding a business requires alertness to opportunity, practical creativeness, and willingness to take some risks. Most business owners either lack these qualities or they don't really want to expand because they are satisfied with a steady income.
5. **Access to resources**
Many businesses cannot grow because they cannot get capital, they have trouble buying raw materials, or they cannot get good workers.
6. **Government policy**
Businesses don't grow because, either directly or indirectly, the government seems to discourage growth.

The case studies, though too few to allow generalisation, revealed near unanimity among the entrepreneurs on the major barrier to growth. Six of the eight respondents gave low demand as the main reason for low growth; one saw lack of resources as key, and one believed entrepreneurship to be the major factor (see Table 2). Those who named a second barrier cited demand, government policy, scale economies, and political instability.⁷ Before examining the implications of our findings for the growth and development of Nairobi's garment industry, it is helpful to look more closely at the firms

themselves.

Table 2: Entrepreneurs' Perceptions Regarding Barriers to Small Firm Growth

Case No.	Sex	Year Founded	Em- ployees ^a	Type ^b	-----Barriers-----	
1	F	1977	4	M-M	resources	demand
2	M	1967	40	MP	demand	government policy
3	M	1963	5	CT	demand	--
4	F	1983	7	CT	demand	scale economies
5	F	1979	10	CT	demand	--
6	F	1969	5	SSP	demand	--
7	F	1980	6	M-M	demand	political instability
8	F	1980	20	CW	entrepreneurship	scale economies

Source: Interviews of owners of selected garment producers in Nairobi, November 1992.

^a The number of employees includes both regular and casuals working at the time of the interview.

^b Type codes: M-M = Mini-manufacturer; MP = Mass producer; CT = Custom tailor; CW = Contract workshop; SSP = Specialised small producer

Although the original sample included firms ranging from one-person enterprises up to large-scale manufacturers employing over 500 workers, the case studies concentrated on the middle range of four to fifty workers. All firms selected for interview were well established. The newest (cases 7 and 8) were 12 years old, significantly older than the industry average of 8 years. The proportion owned by women (75%) was higher than usual for this size range.⁸

The three custom tailors (cases 3, 4, and 5) are quite different from one another. Case 3 sells expensive men's suiting at retail. The owner boasts

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that his customers come from as far away as Uganda to order high quality suits from his shop. Case 4 combines custom tailoring with training. She generally has between eight and twelve trainees following a 12-month sewing course. The owner, a nurse, leaves most of the management of the business to one of the sewing instructors. The third custom tailor (case 5) makes high fashion women's clothing, using fabric supplied by her customers.

Case 8 is a typical contract workshop. The owner, a woman, has at various times produced children's wear, school uniforms, uniforms for banks and railway workers, men's wear, ladies' wear, and wedding gowns. She began her business in 1980 with one machine in her house while still employed as a secretary. In 1986 when she shifted to a workshop in the city, she had 14 machines. By 1989 the business had reached its present level of 23 sewing machines and 20-25 workers. During the case study interview, her conversation sparkled with stories of past business growth and hopes for the future. With only a secondary school domestic science background in sewing, she taught herself how to make and use patterns, and learned to supervise her tailors. She told of how her contacts generated business. She began by making dresses for co-workers while she was still employed. She later made uniforms for the primary school where one of her children was a pupil. After she had gone into business, a dress customer asked her to make choir uniforms, and another helped her get a bank uniform contract. She believes firmly that her success is due, not to luck, but to "selling herself by good work." She keeps no regular workers, but expands and contracts her labour force according to production requirements. She knows many qualified tailors and hires them to fit specific jobs. All are capable of producing complete garments.

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Case 6 is difficult to categorise, but we have called her a specialised small producer because her main product is high fashion women's petticoats which she sells to Asian-owned shops in town. She manufactures both on contract and for her own stock. She is highly versatile and market-oriented. She most often makes ladies', boys' and girls' wear, but is flexible enough to produce whatever the market demands. In January when schools open, she makes school uniforms on contract; at other times she modifies second hand clothes to children's wear. The owner says she goes around "smelling business." Her five tailors are flexible and adaptable.

Two firms (cases 1 and 7) are mini-manufacturers. Case 1 specialises in men's trousers, though she also makes some women's and children's wear. She sells her products to retail shops in and outside of Nairobi. Case 7 produces women's dresses, skirts, and petticoats. She sells the dresses to wholesalers, and sends the skirts and petticoats to markets outside Nairobi. Although both of these firms are small, they follow the mass-production strategy of producing basic, standardised garments for the low to middle income consumer.

Only one firm (case 2) could be called a mass producer. The business, founded in 1967, has 40 employees. Like three-quarters of the medium and large-scale garment firms in Nairobi, it is owned by Kenyan Asians. It has only two products: men's shirts and bed sheets. Both are targeted to middle and lower income earners. The owner said he has stopped making men's trousers because of low demand in the past two years.

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4. Demand, Organisational Models, and Firm Growth

Nearly all the respondents cited demand as a serious barrier to firm growth. Yet it is important to recognise that the impact of weak demand is far from uniform. Demand curves of an industry and individual firms within that industry are not identical. Furthermore, firms in a single industry face different demand curves. Part of this difference may be linked to the way firms organise their production. Our analysis of demand will, therefore, examine not only the overall demand for new clothing in Kenya, but also the impact of demand on firm growth in different types of firms.

4.1 Demand for New Clothing in Kenya

Despite Kenya's rapidly growing population, demand for new clothing is weak. Although the youthfulness of the population ensures a steady demand for school uniforms and basic baby clothes, low incomes and high unemployment leave most people with little discretionary income to spend on other types of new clothing. Demand has been weak for some time. Even in 1989-90, entrepreneurs cited low demand as a problem. Over the past two years, however, demand has apparently dropped sharply with renewed competition from second-hand clothes and the decline in per capita incomes.⁹ Some firms, especially larger ones, are trying to compensate for the weak demand by looking for markets outside of Kenya. In 1991 only five firms (0.5 percent of the firms in the industry) indicate that their products were currently exported, but half of the businesses with seven or more regular workers had considered exporting.¹⁰ A few enterprising small garmentmakers are involved in informal cross-border trade. Most Nairobi firms, however, produce solely for the

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domestic market so their concern about weak local demand is not surprising.

Domestic demand problems are further aggravated by competition from "second-hand" clothes. Clothing sold in Kenya comes from three sources: domestic production, so-called "second-hand" clothing, and imported new clothing. Imported new clothing probably represents less than 2 percent of the market and has little impact on the domestic industry (Kenya 1990, pp. 67, 126). "Second-hand" clothing, on the other hand, competes actively with Kenyan goods.

"Second-hand" clothing includes imported used clothing, used items collected locally, and new clothing, often with foreign labels and price tags. Imported used clothing, cast off by affluent, fashion-conscious consumers in the United States, Europe, and Japan, makes its way through the network of charitable organisations, recyclers, rag makers, wholesalers, and used clothing exporters to importers in receiving countries. Haggblade (1990) has documented the trade for Rwanda. Kenya's distribution system is probably similar, except that until President Moi legalised importation of second-hand clothes in mid-1991, it was vulnerable to sudden losses from unexpected police crackdowns. Traders buy or barter for local second-hand clothes in middle- and upper-income neighbourhoods. The channels for the "new second-hand" items have not been documented. These clothes, which appear to be production overruns and seconds that could not be absorbed in producing countries, may follow a distribution system similar to the one described for imported used clothing.

Second-hand clothing is competitively priced and widely available. In 1991, for example, men's trousers sold for K.shs. 40/= in one of Nairobi's big second-hand markets, women's dresses for K.shs. 20-40/=. At that time, low-

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priced new trousers cost at least K.shs. 120/=, and an inexpensive dress was K.shs. 150/=. The early 1993 devaluation of the shilling and the stabilisation of demand for second-hand clothes have sent prices higher, but new and second-hand clothing remain close substitutes. This is especially so at the lower end of the price spectrum, but high quality second-hand clothes appealing to middle-income consumers have also begun to make an appearance.

Second-hand clothes were first sold in open air markets, near bus parks, and in low-income suburbs. Customers were mainly low-income people unable to afford new clothing. These are probably still the main consumers of second-hand clothing, but the market appears to be widening. Second-hand men's and women's wear is now sold along Nairobi streets, attracting urban workers with shrinking budgets. High quality second-hand clothes, together with second-hand shoes and handbags, are available in restaurants, hair saloons, and some specialty shops. In addition to being attracted by the prices of second-hand clothes, Nairobi residents seem to prefer their variety and perceived higher quality.

A complete analysis of the role of second-hand clothes would require more data, but rough comparisons suggest that complaints about their inroads into the profits of makers of new clothing are justified. The most common product -- women's dresses -- fall into three price categories. Most small firms tend to make dresses in a single price range, specialising in low, moderate, or high priced dresses. Analysis of the profit rates of 139 firms whose most important product is women's dresses shows significant differences between those making low-priced dresses and those making moderate or high priced items. Mean profit rate for firms specialising in dresses costing less

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than K.shs. 200/= was 16 percent, compared with 48 percent and 44 percent for the two higher priced categories.¹¹ That firms concentrating in low-priced products should have lower profit margins is not surprising. The magnitude of the difference, however, seems to support the entrepreneurs' claims that second-hand clothes hurt their profits.

4.2 Demand and Firm Growth in the Mass Production Model

Mass production requires either a large existing market for some standardised product or consumers with enough disposable income to allow producers to create demand through advertising. Markets in developing countries are often small because of small, mostly poor populations. Transport difficulties further shrink markets by imposing geographic limits. Demand may also fluctuate, either cyclically as in the case of school books or uniforms, or erratically because of drought or fear of political disturbances.

Nonetheless, mass markets for basic products do exist in developing countries. Kenya, for example, mass produces many low cost, everyday goods: matches, rubber footwear, ball point pens, cotton textiles, and children's exercise books, to name a few. Many countries also try to expand their markets by exporting to their neighbours or to the world market. However the mass market is created, demand for the mass-produced good is generally price elastic. Because standardised products are close substitutes for one another, individual firms may face the horizontal demand curve characteristic of perfect competition. As we have already seen, mass producers in Nairobi's garment industry compete not only with one another, but also with the second-hand dealers. In such situations, scale economies are crucial to a firm's

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ability to increase profits and thus to generate the capital needed for expansion.

Demand and firm growth are clearly related in the mass production model. So long as demand for the mass produced products is growing, the firm is likely to expand, with its optimum size jointly determined by demand and technology. The greater efficiency brought about by economies of scale, size, and scope allows producers to reduce prices (or maintain them in inflationary situations), thus increasing sales. The classic example continues to be Ford's Model T. In 1909, the year the Model T was introduced, Ford sold 58,022 cars for \$900 each. Economies of scale allowed Ford to reduce costs and prices, so that by 1916 when the price had fallen to \$360, he sold 730,041 cars (Rae 1969).

Economies of scale are difficult to realise in clothing manufacture. The industry generally uses highly dexterous, but low-paid operators and standardised and relatively inexpensive sewing machines. The limpness of textile fabric makes manipulation by machines extremely difficult. Consequently, even in large factories, automation is limited and human workers perform many tasks. Most successfully mechanised operations have either been integrated into textile production (for example, the manufacture of socks and stockings in knitting mills) or occur at the preparation or finishing stages. Sewing, which accounts for about 80 percent of labour costs for most products, has proved particularly difficult to mechanise. Productivity gains have been mainly due to increased machine speeds and the introduction of special-purpose machines. Buttonholers, button-fixing machines, machines set for a particular stitch like overlock, blindstitch, or bartacking, and machines that make

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standard garment parts like pockets or belt loops enable producers to benefit from division of labour. Although special purpose machines speed up garment manufacture, they have not altered the technology calling for roughly equal numbers of operators and machines. Microelectronics-based innovations (MRIs) such as computer-aided design systems, computerised cutters, and micro-electronically controlled sewing machines capable of reducing labour costs, material wastage, and training time by up to 70 percent in some phases of production are extremely expensive, and therefore, rare in developing countries like Kenya (Hoffman 1985).

4.3. Demand and Firm Growth under the Flexible Specialisation Model

Demand for products of firms operating under a flexible specialisation model rests theoretically on the concept of market niches or product differentiation. Unlike the mass produced goods turned out by large factories, the products of the "specialising" firm are tailored to the customer's needs. The tailoring may be inherent in the physical design of the item, in the accompanying services, or in some image created in consumer's minds by advertising. The perceived uniqueness of the product leads to a downward sloping, often inelastic, demand curve. Because firms have more control over price, efficiency and scale economies are less important than they are with mass produced items.

Entrepreneurs adopting a flexible specialisation approach to production survive by minimising their investments in machinery and relying on a labour force that can be increased or decreased at short notice. Thus their size, judged by any of the usual measurers, is probably smaller than that of a mass-

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producing firm with comparable annual sales.¹² Much of the output is contract work for specific customers. Products may differ from job to job, and profit margins will also vary. Even when total profits are high, entrepreneurs may be reluctant to expand the business by investing in fixed capital or taking on permanent workers. They may try to increase profits by using casual labour and rented machines to increase production. Alternatively, they may begin another business, buy land or rental property, or invest in a child's education or training.

4.4 Other Barriers to Growth

None of the other possible barriers to growth received the unanimity accorded to demand. Scale economies were mentioned twice; resources, entrepreneurship, government policy, and political instability each had one mention. Risk was not selected by any of the business owners, though it frequently entered into their discussion of other obstacles.

Although scale economies were named only twice as a major barrier to small firms' growth, their predominance in general discussion with the entrepreneurs underscore their importance. The firms specifically citing scale economies as a problem were a custom tailor (case 4) and a contract workshop (case 8). Both indicated that large firms' ability to realise scale economies blocked smaller ones from growing. Business owners said that big Asian firms produce in mass and therefore sell more cheaply. Business owners felt that the producers and wholesalers, most of whom are Asian, discriminate in favour of Asian controlled garment manufacturers, offering them more secure supplies, lower prices, and better payment terms than those accorded African producers.

Further research would be needed to document this assertion.

Only one of the case-study firms (case 8) thought entrepreneurship was most important for the growth of a firm. The owner of this contract workshop stated strongly that the entrepreneur needs to be alert to opportunity, creative, and willing to take risks. The story of her firm bears out her belief. Her drive and ability to use her connections appear to be crucial to her success.

Only one firm (case 1) named lack of resources as the major barrier to growth. Working capital seems to be a big problem for her. As a mini-manufacturer she is producing for the market, rather than for specific customers. Unlike custom tailors and contract workshops, she receives no deposits to enable her to buy inputs. Low demand and small profit margins on her low-priced trousers and dresses make it difficult to accumulate enough working capital.

One firm, a mini-manufacturer (case 7), mentioned political instability as one of the factors hindering the growth of small firms. She said that the political instability that accompanied the introduction of multi-party politics made 1992 a particularly bad year. Customers who were uncertain about the future were not buying. She ended on an optimistic note. She believes that once the country stabilises politically, her business will return to normal.

The largest manufacturer (case 2), the only one to cite specifically the effect of government policy on firm growth, focused on implementation rather than the policy itself. He pointed to corruption and uncertainty, particularly with regard to importation of inputs, adding that frequent policy changes open

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opportunities for corrupt bureaucrats to take advantage of confused business owners. He also thought indirect taxation hinders firm growth.

None of the entrepreneurs saw risk as a major factor in keeping firms small. Earlier research suggested a link between the riskiness of the business environment and the flexibility of the enterprise (McCormick 1988, 1991). Sverrisson (1992), studying carpenters in Nakuru, found positive evidence linking a more stable market share with the tendency of enterprises to grow through mechanisation. Based on this and on his understanding of both general social network theory and the flexible specialisation thesis, Sverrisson concludes that some stability in the business environment is necessary for technical advance and dynamic growth. Preliminary results of the garment study suggested that risk may retard growth. Small firms stay small, at least in part, because the risk-management strategies they use militate against growth (McCormick 1993). The lack of responsiveness of the entrepreneurs in this case study to the idea that risk is a barrier to growth is, therefore, unexpected. We could interpret their silence to mean that risk is less important than it first seemed. It appears more likely, however, that the risky business environment is taken for granted, and entrepreneurs' unconsciously adopted strategies for managing it are accepted as part of normal business behaviour.

5. Implications of the Analysis for Kenyan Industrialisation

Kenya's recent development documents express commitment to industrialisation in general, and small and medium-scale enterprises in particular (Kenya 1988, 1992). Our analysis of Nairobi's garment industry has revealed at least five different types of small and medium-scale enterprises,

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only some of which appear to have the potential for increasing industrial employment and production. To be effective instruments of industrialisation, therefore, policy and programmes need to be targeted, not at small and medium-size firms in general, but at the most promising types of producers.

The major outcome of the research is a tentative conclusion about which small firms can be expected to succeed and grow. This conclusion has important implications for the future shape of Kenyan industry, prospects for employment creation, and the direction of entrepreneurship. Questions about barriers and incentives to small firm growth remain. Some of the unanswered questions will require additional research; the answers to others may need only further analysis of data already gathered.

5.1 *Which Firms Will Grow?*

An improved economy with increased demand for new clothing would be the greatest and most obvious help to garment firms of all sizes and types. What may be less apparent is the fact that many Nairobi producers would gain most from higher agricultural incomes. Many, especially mini-manufacturers making low-quality goods, sell directly or indirectly to rural consumers. Some deal with wholesalers who resell in rural markets; other producers go directly to rural towns and villages with their goods. Even without good estimates of income elasticities of demand, we can reasonably assume that an increase in the incomes of these rural consumers will result in a significant increase in the sales of new clothing.

Some types of garment firms appear more likely to weather Kenya's weak and fluctuating demand than others. The analysis of market relations suggests

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that contract workshops, specialised small producers, mass producers capable of tapping external markets, and high quality custom tailors have the greatest potential for success. Low-to-medium quality custom tailors, mini-manufacturers, and mass producers tied to the domestic market seem more likely to fail.

The contract workshop, by searching out available demand and minimising labour and capital costs, is probably best positioned to ride out difficult markets. Specialised small producers and custom tailors making high quality garments cater for a high income consumer whose demand for new clothing is relatively steady and only marginally affected by competition from second-hand clothes. Finally, mass producers capable of exporting their output can get around domestic weak and fluctuating demand. By contrast, all of the firms producing low-to-medium quality goods for the domestic market are vulnerable in times of low and unpredictable demand. Mini-manufacturers face especially stiff competition from larger firms and second-hand clothes. For them the apparent superior efficiency of medium sized firms makes growth imperative, but the cost of specialised equipment needed to realise economies of scale combined with the difficulty of generating capital internally make such expansion unlikely. The best managed mini-manufacturers could be prime candidates for small enterprise loan programmes.

The discussion has paid only passing attention to the many custom tailors producing low quality goods. The analysis suggests that they will have a difficult time surviving because they lack both the high profit margins of quality tailors and the flexibility of the contract workshops. Some could be helped to upgrade product quality. Others would benefit more from

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entrepreneurial training to enable them to transform their business into, for example, a contract workshop.

5.2 *The Shape of Kenyan Industry*

The finding that contract workshops, specialised small producers, and mass producers capable of tapping external markets have the greatest growth potential has at least two implications for Kenyan industrialisation. First, it points to the potential place -- in the garment industry, at least -- for both flexible specialisation and mass production. Kenyan industry need not be monolithic. Rather highly flexible firms and more structured mass producers both have parts to play in the industrialisation process. The second implication that can be drawn from the analysis concerns firm size. High potential firms among the case studies ranged in size from five to 40 workers, with considerable overlapping in size among the various types. This suggests that the Kenyan garment industry can accommodate -- and may, in fact, need -- firms of different sizes.

This study has concentrated on individual firms, yet industrialisation also requires interactions among firms. Two issues arising from the flexible specialisation paradigm bear further investigation: division of labour through clustering of independent firms, and subcontracting. The European experience of industrial districts suggests that clustering of firms may enhance competitiveness due to the potential for collective efficiency and flexibility (Schmitz 1992). Although garment producers are often found in clusters, especially in a few of the larger City Council markets, our study revealed little evidence of cooperation among firms or efforts to exploit collective

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efficiency. Earlier observations documented some instances of sharing of electric cutters or other expensive machinery, but garment production on the whole seems more competitive than cooperative. Entrepreneurs tended to blame lack of vertical cooperation on the preference Asian owned textile producers and wholesalers show to fellow Asians. The chain of production from the weaving of cloth to the sewing of the final garment needs much more investigation before we can determine whether entrepreneurs feelings have a basis in fact. Horizontal cooperation may present an even more complex issue. Cooperation is theoretically possible in procurement of inputs, marketing, general production, use of specialised machinery, training, and administrative service. The study thus far has barely scratched the surface of these issues.

A related issue that frequently arises in connection with flexible specialisation is subcontracting. Masinde (1993) argues that subcontracting can benefit both large and small firms. In Nairobi's garment industry, firms sometimes subcontract to cover orders at peak periods. The larger school uniform companies, for example, subcontract to small firms during the annual December-January demand peak. An unexplored area is the potential for subcontracting linkages between larger exporting firms and small producers. Could large firms subcontract to mini-manufacturers, thereby enabling them to survive and to hire more unskilled labour? Would the subcontracting necessarily involve producing entire garments, or is there room for subcontractors to make specific parts -- say, shirt collars -- that will later be assembled by the exporter? What assistance would small firms need to be able to produce on time and with consistently acceptable quality? Could small firms perform auxiliary services such as pressing and packing the final

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product?

5.3 *Prospects for Employment Creation*

With one notable exception, the garment industry presents a bleak employment picture. The firm types most likely to succeed employ mainly skilled workers. They also make extensive use of casual labour, though the distinction between regular and casual workers is sometimes blurry. This raises the question of whether helping small firms to grow will create more permanent jobs, or simply increase the number of opportunities for casual work. Whether casual or permanent, the jobs created in contract workshops, specialised small producers, and high quality custom tailors are likely to require skills that young school leavers lack. Thus growth of these firms may do little to alleviate Kenya's most serious unemployment problem.

The exporting mass producer, on the other hand, uses unskilled labour. Providing real incentives to garment manufacturers to export their output and removing all of the unnecessary bureaucratic barriers is, therefore, an urgent necessity. It may be no coincidence that the only mass producer among the case studies spoke strongly of the need to reform government policy and its implementation. The government's commitment to export promotion has been half-hearted and frustrating for many of the firms involved. Some supportive policies have never been implemented; others, such as retention accounts, were initiated, withdrawn, then reinstated. Consequently some firms that could be exporting are sitting on the sidelines. The resulting untapped human resources and loss of potential output represent a serious loss to the country.

Nearly three-quarters of the business owners and a large proportion of

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the workers in Nairobi's garment industry are women (McCormick 1992b). Expanding the industry has the potential, therefore, of providing entrepreneurial opportunities and, perhaps more importantly, of redressing the current inequities in the distribution of manufacturing employment. The garment industry offers women real opportunities for self-employment. As we have seen, women are contract entrepreneurs, specialised small producers, mini-manufacturers, and custom tailors. In contrast, women are underrepresented in the ranks of production workers. In manufacturing as a whole, women accounted for 24.1% of the workforce, but held only 11.6% of the jobs in 1992 (Kenya 1993). Exact figures for the garment industry are not yet available, but informal observation suggests that mass producing firms are beginning to move away from the all-male labour force towards one that includes a substantial proportion of women. If this trend continues, then a growing export-oriented garment industry can be expected to provide a positive employment alternative for unskilled poor women.

5.4 *The Direction of Entrepreneurship*

Baumol (1990) argues cogently that entrepreneurs are always with us, but what they do depends on the reward structure of the economy. This research suggests that the current Kenyan economy rewards both entrepreneurs who build highly flexible manufacturing organisations capable of adapting to the needs of a variety of customers and those who organise mass production, often within the context of an ethnic network of related businesses.¹³

Entrepreneurs opting for highly flexible firms may, like the motor mechanics Berry (1985) studied in Nigeria, spend more time chasing work than organising or managing production. Kirzner's (1979, 1985) notion that the essence of entrepreneurship is alertness to profit opportunities seems to fit these entrepreneurs well. They use contacts and build networks of relationships that support their business endeavours. They are not innovators in the Schumpeterian sense (Schumpeter [1911] 1934). Although they take risks, risk-taking seems much less important to their business success than would be envisaged by the theories of Knight ([1921] 1985) or Schultz (1975). Entrepreneurs in mini-manufacturing and mass producing firms may have to spend more time in management, but this does not remove the need for alertness. Kenya's constantly shifting environment requires awareness of product and input markets, changing government regulations, and precarious political realities.

The business environment also pushes entrepreneurs into unproductive and even destructive activities. Significant amounts of entrepreneurial time and energy appear to be spent in getting around the system, both legally and illegally. One can only speculate about how business would be different if

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the environment were truly enabling.

Another reality of Kenyan industry that appears related both to opportunities and entrepreneurial behaviour is ethnicity. The most obvious division is between African and Asian businesses. The atomisation of African-owned enterprises contrasts sharply with the Asians' tightly knit and exclusive social and business networks. Our research, however, suggests that ethnic divisions prevail within the African business community as well.

African respondents were quick to name the Asian ethnic factor as a problem. Several argued that Asian dominance of inputs worked against their businesses. The nature of the dominance was not clear, nor were we able in this case study to document its negative effects on African businesses. In future research it would be important to ascertain whether the dominance is actually *Asian*, (i.e., an ethnic phenomenon) or simply a matter of large businesses controlling the market. A recent article in the *Nation* (10 January 1993) suggested that countries like Kenya need anti-trust laws to protect small businesses. Such protective legislation, if fairly drawn and implemented, could reduce ethnic hostility by providing channels for dealing with unfair dominance.

The issue of intra-African ethnic divisions has received much attention in the political arena, but rarely enters into economic studies. Although Nairobi's garment industry is ethnically varied, our research indicates that firms owned by some ethnic groups tend to be larger and to operate from more favourable locations than those owned by others. Follow-up research now in progress will provide further information on this phenomenon, but may still be insufficient. What is really needed is a careful study that would explore the

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full range of social, cultural, and economic variables affecting business behaviour and interaction.

6. Conclusions: Flexibility and Nairobi's Garment Producers

The flexible specialisation paradigm represents a clear conceptual alternative to mass production. In practice, however, firm organisation falls into more than two categories, with each exhibiting differing degrees and forms of flexibility. Our eight case studies included one mass producer and two mini-manufacturers using modified mass production technology. Perhaps because of their relatively small size, perhaps for other reasons, these firms appear less rigid than the stereotypical mass producer. The largest of them, for example, has dropped an unprofitable product line in the past two years. The two mini-manufacturers, although producing low-cost, standardised garments following a mass-production style division of labour, vary the quantity and mix of products according to their perception of demand. Thus it appears that, among the small and medium firms at least, flexibility may be a matter of degree rather than a quality that is present or absent.

The most flexible firms -- contract workshops and specialised small producers -- embody different aspects of the flexible specialisation paradigm. The contract workshop is highly flexible in its labour force and output; the flexibility of the specialised small producer centres on the owner's ability to identify market niches and to shift production accordingly. Flexibility is a matter not only of degree, but of focus.

The mass production and flexible specialisation paradigms are useful starting points for the analysis of particular industries. They are useful,

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this is, as long as we recognise that the real world of many industries is too complex to be adequately explained by two models. In Nairobi's garment industry we have observed five different types of firm organisation. Other industries may have more. The value of paradigms and typologies lies in their power to explain reality and generate workable solutions to problems. Hopefully the typology we have presented, when refined and tested by further research, will provide information about enterprises and entrepreneurs that will enable government, NGOs, and the businesses themselves to take positive action on behalf of small and medium-size garment firms.

NOTES

1. The authors are grateful to the Centre for Development Research in Copenhagen, Denmark, for the financial support that made this phase of the research possible. We also gratefully acknowledge the participation of Mary N. Kinyanjui in the interviewing and analysis.
2. The literature has become too vast to reference adequately. Typical of the dual economy approach are the ILO report itself (ILO 1972) and early studies by House (1981, 1984). Those taking a neo-Marxist approach include Moser (1978, 1984), Bromley (1978), and Lewin (1985).
3. This may, in part, be due to the failure to include small firms in official industry statistics. For example, the 1990 *Statistical Abstract* (Kenya 1990) list 107 establishments with fewer than 10 employees manufacturing wearing apparel in the whole of Kenya. Yet a census of garment manufacturers conducted early the same year counted 2,137 businesses in that size category in Nairobi alone (McCormick 1991).
4. See Kaplinsky (1991, p. 7) and UNDP/UNIDO (1987, p. 139) for slightly different comparisons.
5. In preparation for the research reported in this chapter, we attempted to count any individual or group making clothing for sale anywhere within the Nairobi city limits. In early 1989 six enumerators visited every commercial building in the city centre and combed markets, shopping centres, the industrial area, and residential estates looking for garmentmakers. By inquiring as they entered each neighbourhood, they were able to locate many home-based businesses, though these are probably somewhat undercounted.
6. Eight cases were purposively selected from a sample of 268 firms based on firm size, age of firm, and its general performance. Using results of earlier research, the researchers identified six factors believed to hinder growth of small-scale garment firms. Interviewers then asked entrepreneurs to choose the two factors they thought were the most serious barriers to growth of their firms and to elaborate on the significance of each of the barriers selected.
7. A recent study of small and medium enterprises in Sri Lanka and Tanzania found high input costs and lack of access to finance more constraining than weak demand (Levy 1993). The results of the two studies may be less divergent than they first appear. They may rather simply underscore a point often made by observers of small enterprise: product demand, input constraints, regulations targeted to individual sectors, and technical factors tend to be sector and place specific, while lack of finance more easily cuts across sectors. Thus, Nairobi's garment manufacturers, Sri Lanka's small leather firms, and Tanzania's furniture makers may with

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8. Women own 73% of the businesses overall, but a smaller proportion of the larger firms. In the range of 4-50 workers, female ownership is just under 50%.
9. Real per capita GDP declined by 1.2% in 1991 and 3.0% in 1992. The drop in real average earnings of urban workers was even more dramatic: 8.3% in 1991, and 12.0% in 1992 (Kenya 1993).
10. Two firms that operate under Kenya's Manufacturing-Under-Bond scheme export most of their output. Three other firms export only a small proportion of their production. All exporting firms have more than 50 workers.
11. The other two price ranges were set as "moderate," K.shs 200-499/=; and "high" K.shs. 500/= and above.
12. Firm size can be measured in terms of employment, capital, or output. Employment is most common because it is easy to apply and closely correlated to size measured in terms of capital or output (Little, Mazumdar, Page 1987).
13. The fact that the economy seems to reward other varieties of entrepreneurial activity outside the scope of the present research as well suggests that studies of entrepreneurship in the Kenyan context are sorely needed.

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