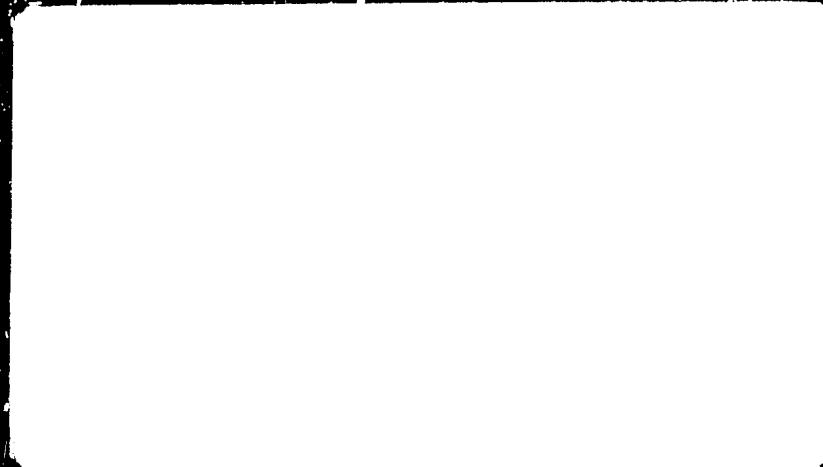


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MEDIUM AND LARGE PRIVATE MANUFACTURING
FIRMS IN RWANDA:
DIAGNOSTIC STUDY OF
CURRENT SITUATION AND POLICY IMPACT

by

Augustin NGIRABATWARE
Leonidas MUREMBYA and
Donald MEAD

Working Paper No. 9
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PREFACE

The Working Papers of which this report forms a part present the results of analyses done in the framework of the Investment Incentives Studies of the Directorate-General of Economic Policy, Ministry of Finance and Economy of the Government of Rwanda. These studies are supported financially by the United States Agency for International Development (USAID) through its project, Policy Reform Initiatives in Manufacturing and Employment (PRIME). The ideas expressed in the Working Papers represent the views of the authors and cannot be taken to reflect the opinions of USAID or the Ministry of Finance and Economy of the Government of Rwanda.

The Working Papers are designed to make available the results of these studies to policy makers and other interested persons. A list of Working Papers produced to date is included at the conclusion of this document. Copies of the reports may be obtained from the Ministry of Finance and Economy.

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This paper is produced in the framework of the Investment Incentives Studies, a component of a project entitled Policy Reform Initiatives in Manufacturing and Employment (PRIME). It is funded by the United States Agency for International Development. In part, this funding is arranged through the Bureau of Science and Technology, Office of Rural and Institutional Development, U. S. Agency for International Development, Washington, D. C. 20523, through the Employment and Policy Analysis Project (EEPA), a consortium of Harvard Institute for International Development (Prime Contractor), Michigan State University, and Development Alternatives, Incorporated (Subcontractors) (Contract No. DAN-5426-C-00-4098-00). The work in Rwanda under this project is undertaken through an EEPA subcontract with Michigan State University. The assistance of the U. S. Agency for International Development is gratefully acknowledged.

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EXECUTIVE SUMMARY

1. This study is an analysis of large and medium-sized private manufacturing enterprises in Rwanda. Large and medium firms are defined as those with 30 or more permanent workers or more than FRw 50 million sales (approximately US \$ 650,000, at current exchange rates). Private includes mixed but not fully publicly-owned enterprises. Production activities of religious organizations, aid projects and other non-profit organizations are also excluded.

2. The goals of the study are:

-to describe the activities and economic characteristics of the target enterprises;

-to examine the ways in which government policies affect these enterprises; and

-to suggest modifications in the policy framework to make it more effective in the promotion of efficient use of the resources of the country.

3. 34 enterprises were identified as meeting the specified criteria; these constitute the core of the study. These 34 employed 4,900 workers, produced and sold products in 1986 valued at FRw 33 billion and had fixed assets with original cost of FRw 7 billion. Their aggregate value added in that year of FRw 14 billion accounted for over 50% of manufacturing value added in the country and 8.3% of the nation's GDP.

4. Over 50% of the share capital for these enterprises came from abroad. Nearly a quarter came from the Rwandan government, 16% from Rwandan individuals, and the remaining 7% from the BRD. In the most recent period covered by the data (1982-86), the Rwandan government's share fell to only 5%, while 41% of the share capital was supplied by individual Rwandans.

5. This share capital provided 32% of the funding in the balance sheets of these enterprises. An additional 14% came from retained earnings. Of the remaining 54% of funding sources from outside the firm, 43% was in the form of short-term loans and suppliers' credit; only 11% came from medium and long-term loans.

6. Over half the firms in the survey were operating at less than 50% of their productive capacity.

7. The average cost of the capital stock per job among these enterprises was FRw 1.5 million. There was a wide variation around this average.

8. The majority of the enterprises in the study were engaged in the transformation of imported raw materials. Two were engaged in the transformation of local agricultural products for export (RWANDEX and SORWATHE). Only a few were engaged in the processing of domestic products for the local market (SORWATOM, SONAFRUIT, COCHABRICORU, SODEPARAL, to some extent, BRALIRWA, the wooden furniture manufacturers and the two flour mills). Even these relied on imports to a significant extent (cans for tomato paste, bottles for fruit juices, fittings and finishings for shoes and furniture, etc.).

9. Three of the enterprises in the study acted as major fiscal agents for the government (RWANDEX, BRALIRWA and TABARWANDA); 88% of their value added was turned over to the Treasury in the form of taxes, thereby supplying close to 50% of the government's ordinary budget receipts.

10. For the other enterprises in the sample, an estimated 32% of the value added earned in the firms accrued to non-Africans. Another third went to other organizations (financial institutions and construction firms) and better-off individual Rwandans (shareholders, upper-level Rwandan staff). 20% of the value added went to the state. The remaining 13% went to workers in these industries.

11. Most of the products of the sector were sold directly to households for consumption purposes. Smaller portions went for intermediate uses (particularly in the construction industry), for sales to the government or for export. The latter includes illegal exports, made profitable in some cases by the existing exchange rate situation.

12. The efficiency analysis indicates a close relationship between levels of efficiency (measured by the DRC ratio) and the level of protection. Enterprises with high levels of protection are also the least efficient, while those that are most efficient have only minimal levels of protection.

13. The analysis indicates a wide range in levels of efficiency as well as of protection. One third of the activities examined showed a level of efficiency which is acceptable or even very good. For the other two thirds, the measured efficiency is bad or even dreadful.

14. Activities found to be highly inefficient can at the same time be highly profitable to the entrepreneur. Protection gives the producer a monopoly in the domestic market, permitting him to increase prices to cover production costs, even if these are very

high.

15. Such cases of inefficiency constitute, in effect, a tax on consumers who are obliged to pay a higher price for the product. Many of the consumers who are forced to pay these higher prices (for rubber sandals and plastic shoes, corrugated sheets, school notebooks, even cigarettes) are among the poorest groups in the country.

16. All this suggests the need for reducing the levels of protection for such highly protected and highly inefficient enterprises. This would put pressures on them to reduce costs arising from overinvoicing or poor use of raw materials and labor, to accept lower returns on their investments or to go out of business.

17. It is suggested that protection policy rely more heavily on tariffs rather than licenses; that decisions on protection for new activities be based more explicitly on efficiency criteria, and particularly on clear indications that the activity will bring net savings in foreign exchange (which is not the case for most of the activities analyzed); that protection be offered only for a limited period, with agreed-upon mechanisms and timetables for reducing the levels of protection over time.

18. In the area of taxation, the Rwandan fiscal system can be characterized by a large number of individual taxes which fall in an uneven way on different producers while yielding an inadequate overall revenue total. The principal recommendations of the study include the following:

-For the ICHA, make the tax payable at the moment of sale rather than the moment of purchase or production, make the tax base the sales value rather than the production cost, and eliminate the cascading effects of the tax by converting it into a form of value added tax.

-The patente should be levied in a manner which varies more closely with profits, avoiding the non-reimbursable minimum tax feature.

-The system of levying and verifying taxes needs to be substantially improved through elimination of delays in tax verification, recruitment of more agents and strengthening of their training, introduction of a system of rotation of agents and strengthening the procedures for counter-verification.

-The system of tax exemptions needs to be reviewed in its entirety in terms of the types of enterprises which are exempted and the magnitude of the exemption. In view of the budgetary needs of the country, it is hard to see how the country can afford to continue to be so generous in exempting large numbers

of enterprises from all taxes for extended periods of time.

19. The principal recommendations of the study in the area of credit policy include the following:

- Accelerate the process of loan evaluations, and coordinate this with Ministerial approval procedures.

- Provide better information to producers on alternative sources of finance.

- Seek changes in the structure of incentives of the financial institutions so they will increase the magnitude of their longer-term lending for manufacturing activities.

20. Other suggested policy changes emerging from the study include the following:

- Undertake a comparative study of transport costs of Rwandan and Kenyan transporters to determine why costs for the former are significantly higher.

- Promote information exchange and competition as a means of controlling price manipulations while de-emphasizing pricing based on fixed margins over production costs, an approach which makes it easy for producers to pass on excessive costs to consumers. Controls based on such margins, even in their current simplified form, are difficult to implement administratively.

- Use government purchases more explicitly as a means of promoting domestic producers.

- Ensure that packaging materials are available to local producers at reasonable prices, with acceptable quality and with assured regularity of supply. Constraints in this area have caused problems for many producers.

CHAPTER I: OBJECTIVES AND APPROACH OF THE STUDY

1.1. Goal.

This study, undertaken in the context of the PRIME Project of the Ministry of Finance and Economy, has the following objectives:

-to describe the activities and economic characteristics of the medium-sized and large private sector manufacturing enterprises of Rwanda and their position in the Rwandan economy;

-to examine the ways in which government policies affect these enterprises: promoting and encouraging or hindering and constraining their growth in production and employment; and

-to suggest modifications in the policy frame to make it more effective in the promotion of efficient use of the resources of the country.

1.2. Scope and Definitions.

The study is concerned with medium and large private manufacturing enterprises. There are three aspects of the scope of the study which must be specified:

-Manufacturing: the definition adopted here is that of Branch 3 of the International Standard Industrial Classification, as adapted for Rwanda. This means the study includes agro-industries (e.g. transformation of tea and coffee etc.) but excludes electricity, gas and water, construction and repair services.

-Private: the study includes all private or mixed enterprises. Excluded are all enterprises which are 100% state-

owned, as well as those operated by projects or religious institutions.

-Medium and large-scale: after examining several alternatives, two criteria were adopted to define the scale of an enterprise: the number of permanent employees, and the value of sales. While we would have preferred other defining characteristics (e.g. the level of investment, value added), these two have the advantage that data are available for a large number of enterprises of all sizes, thus providing a preliminary list of the universe to be studied.

An enterprise was classified as medium or large-scale (and therefore included in the domain of the study) if it had either 30 or more permanent employees or a value of sales of manufactured products of at least FRw 50 million.¹ These cut-off points, which are in large measure arbitrary, were chosen after examining the particular enterprises which would have been added to the sample by adopting lower cut-off points. Annex I gives further details on the enterprises just beyond the margins selected.

1.3. The place of the enterprises under study in the Rwandan economy.

It may be useful at the outset to place these large private manufacturing enterprises in a broader context.

1.3.1. Value added.

The manufacturing sector as a whole--large, medium and small, private and public--provided a value added of FRw 27.1 billion in

¹ Approximately US \$ 650,000 at current exchange rates.

1986.² Of that amount, FRw 10.5 billion was in three categories of small enterprises: traditional beverages, tailors, and basketry. Of the remaining FRw 16.7 billion, nearly 85%--FRw 14.1 billion--is in the enterprises included in the study. These enterprises thus explain over 50% of manufacturing value added, but only 8.3% of the GDP of the country.

1.3.2. Employment.

A recent study estimates the structure of employment in Rwanda as follows:

Family agriculture: approximately 2.6 million³

	Formal	Informal	Total
Other employment:			
Agriculture and mining	29,625	35,500	65,125
Manufacturing	10,214	116,621	126,835
Electricity, water	1,200	0	1,200
Construction	24,572	7,562	32,134
Commerce, transport, finance	15,781	17,103	32,884
Other services (gov, pers.)	75,342	1,000	75,342
Total	156,734	177,786	334,520

Source: Nguyen-Huu Khiem, Etude sur l'Emploi au Rwanda: exploitation des données existantes, MINIFINECO, Etudes des Mesures d'Encouragement à l'Investissement et à l'Emploi, Document de Travail No. 6, dec. 1987, pp. 9, 11, 53.

The 4,900 workers in the enterprises covered in this study thus account for 48% of employment in formal sector manufacturing, 3.9% of employment in manufacturing broadly defined, and only 1.5% of all employment outside of traditional family agriculture.

² Ministère du Plan, Comptes Economiques Nationaux du Rwanda: 1986 (Kigali, No. 10 mars 1988), page 172 J.

³ Economically active population age 15 and above (approximately 2.97 million) minus those employed elsewhere (from table).

1.3.3. Other medium and large manufacturing enterprises.

While comparable and comprehensive data are not available for medium and large manufacturing enterprises owned by the government or run by religious institutions, some relevant figures can be presented.

The following are wholly government-owned enterprises in the manufacturing sector (1986 figures):

	Employment	Value added (FRw mil)
OCIR-cafe	759	n.a.
OCIR-thé	1022	669.0
OPYRWA	138	-109.0
OVAPAM	400	428.0 (1985)
Imprimerie Nat. du Rwanda	158	43.3
Papeteries du Rwanda	230	30.3
OVIBAR	95	32.4
Total	2802	1,094.0

For comparative purpose, one may note that the 34 large private enterprises included in our study employed 4,902 people, generating a value added of 14,094 million Francs.

In addition, the following are administered by the government as "régies de projets:" Laiteries du Rwanda (Gishwati, Nyabisindu, Nyagatare), Cimenterie de Mashyuza, Sucrierie Rwandaise, Rizerie Rwandaise, Maïserie de Mukimana, Imprimerie Scolaire, Usine d'Allumettes de Butare,⁴ Forges de Nyabisindu, and the Régie Apicole. (Source: Tronthon Grant, Mission d'Evaluation de la Centre Comptable et Organisations, Tome 1: Rapport Définitif, Janvier 1988).

⁴ This enterprise was converted into an "entreprise mixte" in 1988, with the name of SORWAL.

Finally, reference must be made to enterprises run by aid projects and religious institutions: the Economats, with their large furniture and printing establishments; the numerous other furniture workshops established and run by church organizations; the project PPCT, established by Belgian volunteers and still awaiting finance from the Belgian government. None of these are included in this study.

Table I shows the enterprises covered in the study, along with other large public sector and non-profit manufacturing enterprises in the country.

1.4. Data sources and approach.

The preliminary list of enterprises to be included in the analysis was based on a census of establishments undertaken by the Ministry of Planning in 1986. This list was supplemented by information available within MINIFINECO and from other sources. In the course of the study, virtually all of the enterprises so identified were interviewed, and information collected on the background and evolution of the firm; their current financial situation; the impact of policy on the firm; the enterprise's future plans, and the need for policy change to support such plans. In most cases, the enterprise furnished a copy of their 1986 or 1987 balance sheets and financial accounts, which provided a basis for some aspects of the analysis.

Table 1
Medium and Large Manufacturing Enterprises in Rwanda

	Kigali		Rest of the country	
	Private or mixed	Public sector or non-profit	Private or mixed	Public sector or non-profit
Food, drink and tobacco	Athenee Rivandex Bralirwa (soft drinks) Tabarwanda Sorwatom	Ovibar	Sonafruits Etiru Minoterie de Byumba Sorwathe Bralirwa (brewery)	Perimetre Rizicole Cyili Laiteries du Rwanda Usines a the (OCIR-the) Sucrierie Rwandaise Riziculture Nyabugogo Maiserie de Mukamira Ovapam
Textiles and leather	Utexrwa Eccmirwa Rwantexco Sodeparal			
Wood	Rwanda furniture Namdhari Ameki			Economats de Kabgayi, de Rwamagana
Paper, printing	Imprimerie de Kigali Printerset Socobico	Imp. Nat. du Rwanda Imp. Scolaire		Imp. de Kabgayi Papeteries du Rwanda
Chemical industries	Rwanda Foam Bandag Rwanda Paints Sirwa Sonatubes Mironko Plastics Anik Sulfo Rwanda Sakirwa			Usine d'Alumettes Office du Pyrethre du Rwanda
Non-metallic minerals			Cochabricoru	Cimenterie PPCT
Metals, electronics	Rwandex Sofat MERA Tolirwa Manumetal Kassinon	Chillington	Harjit Singh	Government forge of Nyabisindu

CHAPTER II: PRINCIPLE CHARACTERISTICS OF THE ENTERPRISES
COVERED IN THE STUDY

2.1. Age and ownership.

The 34 enterprises for which detailed information is available can be grouped in terms of their starting date into five periods. The total number of enterprises, the amount of investment (measured in terms of the current paid-up capital) and the source of this capital are shown in table 2 below.

Several things can be observed from this table.

a) Two manufacturing enterprises--Bralirwa and Etiru--date from before the independence of the country in 1962.

b) The first ten years of independence saw the creation of an average of one large enterprise per year. Over half the funding for these firms came from abroad, supplemented by a substantial investment on the part of the Rwandan government.

c) The period 1975-1980 was one of rapid growth in many aspects of the Rwandan economy, including the formation of new manufacturing enterprises. The pace of industrial investment picked up substantially, both in terms of numbers of enterprises created per year and in paid up capital per enterprise. Foreign private and Rwandan government investments were supplemented during this period by foreign government investments (SODEPARAL) and share participation of the BRD.

d) The most recent period (1982-86) showed a continuing rapid pace of creation of new enterprises (approximately two per year), but with a lower amount of paid-up capital per enterprise. The striking change, though, is in the pattern of finance of these enterprises, with over 40% coming from individual Rwandans.

Table 2

Age and sources of share capital of large-scale private manufacturing firms in Rwanda

	1948-59	1963-72	1975-80	1982-86	Total
Number of enterprises created	2	10	13	9	34
Total paid-up capital (FRw millions)	450	1,280	2,520	603	4,852
Average capital per enterprise (FRw millions)	225	128	194	67	143
Source of paid-up capital (%)					
Domestic private	14.2	2.8	17.7	41.3	16.4
Gov. of Rwanda	25.8	37.9	21.7	5.1	24.3
BRD	0.0	3.2	12.1	0.0	7.2
Foreign private	60.0	56.1	39.7	53.6	47.6
Foreign Government	0.0	0.0	8.8	0.0	4.6
Total	100.0	100.0	100.0	100.0	100.0

The government's role in this new capital was negligible.

e) Taking all the enterprises in the sample together, nearly half of the share capital came from private foreign investors, with another quarter coming from the Rwandan government. Rwandan individuals supplied 16% of all financing. The Libyan government provided 5% (the case of SODEPARAL), while the remaining 7% came from the BRD.

2.2. Entrepreneurship.

One of the questions asked in the interviews concerned the source of the entrepreneurial activity in the establishment of the enterprise: who were the prime movers? The responses were as follows:

Table 3: Percentage of cases in which the entrepreneurial function was supplied by:

Foreign merchants:	30.2
Foreign manufacturers	18.6
Other foreigners (missionaries, aid projects, etc.)	7.0
Rwandan merchants	20.9
Rwandan government civil servants	7.0
Rwandan manufacturers, other products	7.0
Rwandan government or parastatals	9.3
Total	100.0

As these figures show, in 56% of the cases the entrepreneurial function was performed by foreigners, usually merchants or manufacturers. Rwandan merchants also played a significant role here.

One of the striking findings in the interviews is that virtually

all of these firms were originally created as large enterprises. Of course there has been some growth in output and employment in each as markets have grown, as new products were introduced and as productivity increased; but only in rare cases did these enterprises start small and gradually expand. This is not really surprising, since the skills required to run these larger firms generally far surpass those practiced by small producers who use simpler technologies, with simpler or non-existent record-keeping and very limited marketing activities. Small and medium enterprises have not in fact provided the seed-bed from which large manufacturing enterprises have emerged.

2.3. Capital.

There are several aspects of the capital investment of these enterprises which are of interest to us.

2.3.1. Sources of financing.

The sources of finance for the firms in the sample are as follows (in percent):

Internal sources of funds:	
Share capital	32.0%
Accumulated reserves and retained earnings	13.9%
Subtotal, internal	45.9%
External sources of funds:	
Medium and long-term loans	11.2%
of which: BRD	5.0%
Short-term loans	42.8%
Subtotal, external	54.0%
Grand total	100.0%

Perhaps the most striking thing to be observed from this table is the very limited reliance among these enterprises on medium and

long-term credit. This reflects primarily the limited availability of such credit to producers in the country. In the absence of such loans, manufacturing firms are forced to rely on internal sources of finance and on short-term loans. The origins of the internal sources of funds were discussed in section 2.1 above.

2.3.2. Assets.

When one speaks of the financing needs of a manufacturing enterprise, one normally thinks first of fixed capital: land and buildings, machines and equipment, vehicles and other similar fixed assets. An examination of the balance sheets of the firms in the sample makes clear that these categories comprise only a third of assets of the balance sheet. The other two thirds, sometimes referred to as circulating capital or working capital, are represented by inventories of finished products, raw materials and goods in process and by financial assets (accounts receivable, credit outstanding, etc.). The importance of this group of assets helps explain the substantial reliance of these enterprises on short-term credit, which can be appropriately used to finance such circulating capital.

Among the fixed assets, based on original costs, the relative importance of the different categories is as follows:

Land	2.1%
Buildings	36.5%
Machinery and equipment	49.3%
Vehicles	9.3%
Furniture	2.7%
Total	100.0%

The heavy preponderance of machinery, equipment and vehicles in this total is important, among other reasons, because of the virtual exclusive reliance of these categories on imports, which means that the share of foreign exchange in the investment cost

is very high.

2.3.3. Rate of utilization of capacity.

For those enterprises for which it has been possible to estimate the rate of utilization of capacity, the distribution of responses was as follows:

Rate of utilization of capacity (in %)	Percent of enterprises
0 - >20%	8.7%
20 - >50%	43.5%
50 - >80%	26.1%
90 - 100%	21.7%

Just over half the enterprises were operating at less than 50% of capacity. On the other hand, 21.7% were operating at virtually full capacity. One clearly finds considerable diversity in the manufacturing firms from this point of view.

2.4. Labor.

Among the 34 enterprises for which detailed data were collected, total employment amounted to 4,902 workers. The average here was 144 workers per enterprise, but because the distribution was highly skewed, the median was only 50 workers per enterprise. The distribution of firms by employment size is as follows:

Less than 50 workers	13 enterprises
50 - 99 workers	10 "
100-199 "	5 "
200-299 "	1 "
300-399 "	1 "
400-499 "	2 "
600-699 "	1 "
800-899 :	1 "

Only six enterprises in the sample had 200 or more workers; these six accounted for over 60% of the employment among all firms in the sample.

It is possible to use the data collected from these firms to calculate the average wage rate paid, dividing the total labor costs by the number of workers. These figures are subject to a variety of qualifications in their interpretation:

-some of the workers may not have been employed throughout the year;

-the accounts may have treated differently the salaries of administrators;

-there is considerable variation in the importance of workers of different skill levels, as well as in the position of foreign workers in different enterprises, while the levels of compensation of foreign workers is far different from that of Rwandan workers.

With all these factors at work, it is normal that calculated average wage payments per worker per year should vary considerably between firms; but the magnitude of this variation is striking, as the following table shows:

Average wage per person per year	No. of enterprises
Below FRw 100,000/year	4
100,000 - 199,000/year	8
200,000 - 299,000/year	5
300,000 - 399,000/year	5
400,000 - 499,000/year	3
500,000 and above	3
Total	28

The average among all enterprises is FRw 266,000 per person per year, but as the table shows, the variability around this average is very wide.

22 of the 34 enterprises in the study were also included in a survey undertaken by the Direction General of Economic Policy of the Ministry of Finance and Economy, as background for the annual report on the economic situation. That survey collected information on the number of employees by category as well as their wage payments. For these 22 enterprises, the structure of employment was as follows:

	Workers		Percent of wage bill	Average wage per month
	Number	Percent		
Non-Africans	88	3.9	40.6	221,145
Africans:				
Staff and technicians				
Superior	86	3.7	10.5	59,206
Medium	186	8.0	11.3	29,388
Laborers, assistants, temporary workers	1,957	84.4	37.6	9,304
Total	2,317	100.0	100.0	20,947

This table shows the inequality of distribution of receipts of labor income in the manufacturing sector. Non-Africans comprise 3.9% of the labor force but receive 40.6% of the wage bill, while 84% of the labor force made up of laborers receive only 38% of the wage payments.

One should note also that these figures include only direct wage payments. An examination of the total labor costs of these enterprises (including housing and other supplemental allowances) indicates that the salaries themselves account for only 78.7% of

the total labor costs. Since these supplemental benefits are provided overwhelmingly to foreign workers and top categories of Rwandan staff, it is clear that well over 50% of the labor income goes to the 7.6% of the workers in these two categories.

2.5. Capital/labor ratios.

Two measures of this variable have been calculated.

2.5.1. Stock measures: capital costs per job created.

This measure is based on the capital invested in the enterprise divided by the number of workers. Capital is measured by the original cost of buildings, machines and equipment, vehicles, land and furniture. The resulting figures are as follows:

Capital stock per worker (FRw 000)	Number of enterprises
less than 100	1
100 - 499	3
500 - 999	4
1,000 - 1,999	9
2,000 - 2,999	8
3,000 - 3,999	1
4,000 - 4,999	1
Total	27

Using this measure, the average capital cost per job created among these enterprises was FRw 1.5 million; for 19 of the 27 firms, the capital cost was above FRw 1 million per job created. For purposes of comparison, the comparable figures among small manufacturing firms have been estimated to be approximately FRw 0.3 million (see Khiem, Etude sur l'emploi au Rwanda; M. Voyer, "Le Projet d'Appui au Secteur Non-Structuré urbain de Kigali," BIT: December 1985, Kigali).

2.5.2. Flow measures: capital intensity of production.

For this indicator, we have measured the ratio of annual costs of using the capital stock, on the one hand, and the cost of labor, on the other. The cost of labor is simply the sum of personnel costs in the annual accounts. The cost of capital is calculated using the Capital Recovery Factor, a measure which combines the amortization cost of the capital stock plus a rate of return on the capital not yet amortized. In the calculations presented below, we have assumed a rate of return on capital invested of 12% per year; this could be thought of as a measure of the opportunity cost of the capital used in the enterprise.

The figures for the firms in the sample with usable data are as follows:

Annual costs of capital divided by annual costs of labor	Number of enterprises
Below 0.49	4
0.50 - 0.99	4
1.00 - 1.99	11
2.00 - 2.99	5
3.00 and above	3
Total	27

One can interpret these figures by saying that for the first eight enterprises in the table, annual payments for labor are greater than (for the first four, more than twice as high as) the annual cost of the capital in the firm. For the 8 enterprises in the last two categories, by contrast, capital costs per year were more than twice the annual labor costs. One would need to question the appropriateness of the latter group of enterprises in a country such as Rwanda which has abundant labor and where capital needs to be used as economically as possible.

2.6. Sales and the allocation of receipts.

2.6.1. Value of sales.

The firms in the sample can be classified according to the value of their sales per year, as follows:

Annual sales, in FRw	No. of enterprises
less than 50 millions	4
50 - 99 millions	5
100 - 199 millions	12
200 - 299 millions	2
300 - 399 millions	2
400 - 499 millions	1
600 - 699 millions	1
900 - 1 billion	1
1 - 1.5 billion	3
6 - 7 billion	1
17 - 18 billion	1
Total	33

Again we find a highly skewed distribution of enterprises from this point of view. The average enterprise made sales of 1.0 billion francs; yet the median enterprise sold only for 175 million, while the top five enterprises, those with sales over 1 billion per year, accounted for nearly 85% of all sales. In fact 72% of the sales from all 34 enterprises in the sample were made by just two enterprises (Rwandex and Bralirwa).

2.6.2. Purchased inputs.

Two approaches have been used in analyzing this question. The first looks at the manufacturing sector as a whole, through Rwanda's input-output table for 1985. That table shows the following figures for the share of intermediate purchases derived from local sources (i.e. other than imports), and those obtained from domestic manufacturing sectors (as opposed to other domestic

sources of supply). The higher are these figures, the more important are the backward linkages from the particular industrial sector to the rest of the economy. The figures are as follows (in percentages):

	domestic intermediate purchases/total intermed. purchases	domestic intermed. purch. from manu. firms/ tot. intermed. purchases
Paper & printing	26.8	0.4
Chemical indust.	27.5	1.2
Modern beverages	30.6	0.5
Textiles	31.4	3.5
Metals	37.7	7.0
Other food indust.	65.7	31.3
Wood industries	69.7	38.1
Coffee & tea	84.3	0.0
Non-metallic min.	89.5	3.4
Basketry	99.7	1.1
Traditional beverages	100.0	1.1
Weighted average	79.0	4.1

Looking first at the first column, which relates to total intermediate purchases from all domestic sources of supply, the industries in the table fall into three groups:

-those which purchase only 20-40% of their intermediate inputs from local sources;

-those which purchase 60-70% of their intermediate inputs domestically; and

-those which rely on local production for more than 80% of their inputs.

In terms of backward linkages to the industrial sector by itself, shown in the second column, it is surprising to find that it is the middle of the three categories which shows the highest degree of industrial integration, with 30-40% of intermediate purchases coming from manufacturing sector enterprises. The third category has very high backward linkages to primary producers, but virtually none to the manufacturing sector. In establishing an industrialization strategy for the country, considerable emphasis has been placed on activities involving the transformation of primary products. While this is a highly desirable focus, it should be recognized that it may not change significantly the current low level of inter-industry flows among manufacturing enterprises.

The growing importance of imported intermediate inputs to the manufacturing sector is reflected in the changing structure of imports by end use. The figures are as follows:

Distribution of imports, by category of final use		
	1982	1985
Private consumption	28.6%	25.8%
Intermediate uses	49.9%	56.9%
of which: intermediate purchases by the manufacturing sector	16.7%	22.4%
Investment	18.8%	14.5%
Other (change in stocks, exports)	2.7%	2.8%
Total	100.0%	100.0%

Source: Ministry of Finance and Economy, Input-Output Tables of the Respective years.

These figures show a surprisingly sharp change over the course of only three years in the pattern of imports, with the share of the total used directly for consumption or for investment purposes

dropping sharply while the share of imports used as intermediate inputs increased, particularly in the manufacturing sector. This change has a variety of important implications:

-Intermediate inputs were subject to an average import duty of only 10% in 1985, while for finished consumer goods the average was 30%; the replacement of finished products by intermediate inputs seriously erodes the government's tariff revenues.

-The changing import structure makes the economy more vulnerable to balance of payments fluctuations. In times of shortage of foreign exchange, it is generally substantially easier to limit the imports of finished consumer goods than it is to reduce the supply of intermediate inputs whose unavailability could result in the closing of plants and the laying off of workers.

A continuing growth of import substitute industries based on the transformation of imported inputs will clearly aggravate these problems.

The importance of domestic vs. imported intermediate inputs in manufacturing enterprises can also be explored from the point of view of individual enterprises and products. There are three sources of data for this analysis:

i) The present study has made detailed estimates of the foreign exchange costs of imported raw materials as well as the ex-factory sales price for 15 products (see the more detailed discussion of section 3.1 below and Annex IV). The share of imported raw materials in the sales prices of these products is as follows:

galvanized sheets	69%	rubber sandals	37%
wire fencing	59%	leather shoes	30%
barbed wire	58%	school exercise books	30%
foam rubber mattresses	55%	hoes	27%
tomato concentrate	50%	cigarettes	26%
cloth: poly/cotton	48%	beer	10%
plastic shoes	42%	wheat flour	0%
toilet paper	41%		

The (unweighted) average of these 15 products is 38.8%.

ii) Other products have also been examined in this study but in less detail. For these products, costs of imported inputs have not been separated into foreign exchange costs, customs duties, transport and clearance expenses, etc., but include all these components together. Taking the ratio of this total cost of imported inputs to production costs or sale prices, the figures are as follows:

	% of sales price	% of production cost
Aluminum casseroles (H. Singh)		93.9
Vaseline (ANIK)	70.4	78.3
Wooden furniture (AMEKI)	54.4	
Radios (MERA)	52.0	62.6
Candles (ANIK)	44.9	50.7
Metal truck trailers (Rw. Furn.)	39.7	45.6
Metal furniture (MANUMETAL)		41.5
Passion fruit juice (SONAFRUITTS)	21.4	
Chalk (COCHABRICORU)		9.3

iii) A third source of information is the survey of enterprises for the 1985 Input-Output Table undertaken by the General Direction of Economic Policy of the Ministry of Finance and Economy. This survey collected information on the cost of imported raw materials (measured as the cost to the enterprise,

i.e. including customs duties, transport and clearance charges) as well as the value of production of the firm. For the 14 large manufacturing enterprises covered by that survey, the weighted average ratio of these two figures was 65%.⁵

Taking all these sources of information together, it is clear that most of the large private manufacturing enterprises in Rwanda are focused on the transformation of imported inputs. Only a few enterprises have chosen activities based on domestic raw materials: passion fruit juice, leather shoes, chalk, tomato concentrate, wheat flour, wooden furniture. Even in these cases, one finds a fairly heavy reliance on imported inputs: wooden furniture often uses imported plywood and hardwoods, fruit juice is sold in imported bottles, tomato concentrate is placed in imported cans, local wheat can supply only a small portion of the demand for flour of the country etc. It is clear that the industrial promotion policy must be more clearly focused on the transformation of local materials.

2.6.3. Value Added.

The large manufacturing enterprises of the country are often criticized for providing only a small amount of added value in the country; a number of them have been characterized as involving only a limited transformation of purchased inputs, often imported. The validity of this assertion will be examined in more detail in Chapter III below, where value added is measured at world prices; here the analysis is limited to the internal or domestic prices. In those terms, the ratio of value added to value of production for the enterprises in the sample was as follows:

⁵ This is the sum of the value of imported inputs for the 14 enterprises divided by the sum of the value of their production. An unweighted average--that is, the average of the ratios for each of the 14 firms taken individually--was 56%. The median figure for the 14 was 60%.

Value added/Production (percent)	No. of enterprises
(negative Value Added)	1
0 - 9%	0
10 - 19	5
20 - 29	5
30 - 39	4
40 - 49	7
50 - 59	3
60 - 69	4
70 - 79	1
Total	30

More than a quarter of the enterprises have value added equal to more than 50% of the value of production, and for nearly two-thirds the ratio was above 30%. These are surprisingly high figures, and reflect a number of forces at work:

- a high cost of production among these enterprises, both because factor costs (e.g. wage payments) are high and because productivity is low;

- a high degree of protection from imports and low degree of competition among domestic producers, which make it possible for these firms to continue supporting high transformation costs, even in cases where value added measured in world prices is minimal;

- high indirect taxes; a few enterprises in the sample are subject to very high indirect taxes which are passed on to the purchaser in the form of higher prices, thereby increasing the value added in such enterprises.

These issues are explored in more detail in the context of

the efficiency analysis in Chapter III.

2.6.4. Allocation of value added.

Based on the accounts of the enterprises in the sample, it is possible to calculate the way in which the net receipts of the enterprises--their value added--is distributed among different claimants. There are three firms for which the data need to be treated separately in this regard, since they are subject to specific and particularly high taxes; these are Rwandex, Bralirwa and Tabarwanda. Table 4 provides the relevant data for these three as well as for the other 25 firms for which detailed data are available.

For the three firms presented separately, the ratios of taxes paid to value added range between 80% and 95%, averaging 88% for the three taken together. Along side their production activities, these three firms clearly play a major role as tax collection agents for the government.

For the other enterprises in the sample, it is not surprising that the largest single category of value added is personnel expenses, which account for just over a third of value added. Nearly another third goes for interest and amortisation expenses.

It is possible to reclassify these data to indicate the groups in the economy who are the beneficiaries (see table 5). This table indicates that nearly a third of the value added of these 25 enterprises goes to non-Africans in the form of salaries and benefits, purchases of imported machinery and equipment, and profits. Middle and upper level Rwandan staff of these enterprises (less than 300 persons, in all the large private manufacturing firms of the country) receive about 8% of the value added. Other institutions and individuals (financial institutions, construction enterprises involved in constructing the buildings, Rwandan shareholders etc.) receive 27% of the

Table 4

Distribution of value added

	Bralirwa, Rwandex and Tabarwanda		25 other enterprises		Total	
	FRw mil.	%	FRw mil.	%	FRw mil.	%
Sales	26,035		7,742		33,777	
Value added	12,222	100.0	1,872	100.0	14,094	100.0
Personnel expenses	628	5.1	671	35.8	1,298	9.2
Financial expenses	191	1.6	224	12.0	415	2.9
Depreciation	215	1.8	391	20.9	605	4.3
Other expenses, net	0	(0.1)	85	4.5	69	0.5
Net profits before tax	11,205	91.7	501	26.8	11,707	83.1
Taxes	10,777	88.2	336	17.9	11,114	78.9
Net profits after tax	428	3.5	165	8.8	593	4.2

Table 5

Recipients of value added in manufacturing enterprises
(in percent)

	Non- africans	Middle-level and senior staff and technicians	Africans ***** Laborers, workers' aides, temporary workers	Other insti- tutions and individuals	Taxes and and net profits of public sector investments	Total
Personnel costs:						35.9
Salaries	10.4	5.3	12.6			28.3
Others	5.0	2.6				7.6
Financial costs				12.0		12.0
Depreciation	12.5			8.4		20.9
Other expenses, net				4.5		4.5
Taxes					17.9	17.9
Net profits after tax	4.6			2.1	2.1	8.8
Total	32.5	7.9	12.6	27.0	20.0	100.0

Sources: our survey data, information from MINIFINECO, D. G. Economic Policy.
RWANDEX, BRALIRWA and TABARWANDA are excluded from these data.

income generated in these enterprises. 20% goes to the State, in the form of taxes or of returns on their investments. Only 12.6% of the net receipts (i.e. value added) go to the laborers, who account for 86.3% of the work force of these enterprises.

One of the most striking thing about the figures in table 4 concerns the high level of taxes.⁶ Even excluding the three very heavily taxed enterprises shown separately in the table, taxes took an average of 67.1% of net benefits before tax, a very high figure indeed. An examination of the detailed figures shows a wide variability in this ratio among firms in the sample:

Ratio of tax payments to net benefits before tax	% of all firms
below 20%	29.2%
30 - 59%	33.3%
above 60%	37.5%

We shall return to this question in our discussion of the tax structure in chapter IV below.

⁶ Taxes covered here include all taxes paid by the firm, direct as well as indirect, with the sole exception of the wage tax (tax professionnelle) which is not considered in this analysis. The figure presented here for net income before tax therefore does not correspond to that in the usual Rwandan business accounts, since the latter has subtracted certain deductible tax payments which we have moved to group them together in our estimate of the firm's total tax payments.

CHAPTER III: SUPPLY AND DEMAND ASPECTS

3.1. Supply-side Issues: the Efficiency of Large Private Manufacturing Enterprises.

3.1.1. Introduction.

In their search for development, many third world countries, including Rwanda, have adopted a strategy of import substitution as an important dimension of their attack on the problem of poverty. To reach this goal, these countries have put in place a series of measures to protect domestic producers from competition, sometimes characterized as "savage," with foreign enterprises which often appear to be more efficient.

The instruments most frequently used for this purpose include tariffs, quotas and licenses, exemptions from certain taxes, prior deposits on imports, export subsidies, multiple exchange rates, etc.

In Rwanda, the primary context for such intervention is import programming, a procedure for the licensing of imports taking account of the priority needs of the country, domestic productive capacity and the availability of foreign exchange. This programming is under the control of the National Bank, in cooperation with the Ministry of Finance and Economy.

In addition to these licensing procedures, protection is also provided through the tariff structure. In October 1987 a new tariff code was adopted specifying customs duties ranging from 0% to 150% and fiscal duties of 0% to 70%. This new tariff code was adopted taking account of the priority needs of the country and the local productive capacity for manufactured goods. In addition, the importer pays a tax of 3% to the Government Stores (MAGERWA) and a 6% sales taxes (ICHA).

Certain products (in particular, petroleum products) are subject to specific taxes which go directly to a road construction and maintenance fund (fonds routier). For others, specific taxes are levied which can yield ad valorem equivalents which are very high (for beer, for example, this amounts to over 500%).

The system of prior deposits, established in 1982 to raise the cost of imports by requiring the maintenance of a bank deposit equal to a specified percentage of the value of the import, has since been abolished. Multiple exchange rates have never been used in Rwanda.

To explore the impact of these policies on protected enterprises, two approaches have been used: estimates of the levels of nominal and effective protection, and an analysis of the domestic resource costs of foreign exchange in these activities.

1₀ The nominal rate of protection (NRP) measures the effects on the domestic price of the product as a result of all these interventions. It shows the percentage increase in the ex-factory price of the product, relative to its tax-free delivered import cost.

More precisely:

$$\text{NRP} = (\text{ex factory price of the local product} / \text{price of a comparable import, delivered in Kigali, exclusive of all taxes}) - 1$$

With regard to the effective rate of protection (ERP), it is a more comprehensive indicator which measures the effects on value added as a result of producing the product locally rather than importing it. More precisely:

ERP = (value added at local prices / value added measured in world prices) - 1

= [ex-factory price - (foreign exchange costs of all imported inputs + taxes, tariffs and duties paid on these imported inputs)] / (tax-free import price of a comparable product - foreign exchange cost of all imported inputs used in the domestic product, but exclusive of tariffs and duties paid on these imported inputs) - 1

Any increase in the duty rate on imported inputs will have the effect of reducing the value added at local prices and thus the level of effective protection. Conversely, any intervention which raises the domestic price of imported products raises the possibility of an increase in the price at which competing domestic prices are sold, and therefore the level of effective protection. This might result from an increase in the tariff rate or from any other intervention (such as licenses) which reduces the availability of competing imports.

These questions are explained in more detail in the context of a specific example in Annex II.

2₀ With regard to the Domestic Resource Cost of Foreign Exchange, it is defined as the net additional costs in terms of domestic resources per unit of foreign exchange saved when production takes place in the country instead of importing the finished product. In particular,

$$\begin{array}{r}
 \text{Costs in domestic resources} \quad \text{Costs in domestic} \\
 \text{of local production} \quad \quad \quad - \quad \text{resources of importing} \\
 \quad \text{the finished product} \\
 \text{DRC} = \frac{\text{[foreign exchange cost of imported finished product]} - \text{[foreign exchange cost of domestic production]}}{\text{[current exchange rate]}}
 \end{array}$$

These calculations of the DRC as well as of the rates of protection involve estimation and calculation procedures which can pose serious problems.

1. In estimates of rates of protection, no allowance was made for differences in the quality of the product. Since local products are often of lower quality than those of competing imports, the level of protection is under-estimated.

2. It has been difficult to determine a representative world price of comparable products. It is primarily for this reason that the list of products analyzed is limited. The approach followed here is one based on the average of prices of actual imports to Rwanda during the period 1986 and 1987. But at this level as well, certain problems arose:

-Reported import prices are affected by variations in certain cost items, in particular those relating to transport. For example, according to reports filed by SOCOBICO, the transport costs of toilet paper amounted to 15% and 25% of total product costs in subsequent import shipments in 1986.

-The country has no institutional mechanism for following world prices of imported products; declared prices remain largely a matter settled between the supplier and the importer. Local officials limit their examination to information provided by the Société Générale de Surveillance (SGS), which has frequently been found to be inadequate to the task.

-In general, the prices used in this study were based on the declarations of importers attached to their import documentation ("Déclaration de Mise en Consommation"), submitted to the Ministry of Finance and Economy, Director General of Commerce. These declarations are classified in only a rudimentary manner which makes it very difficult to use them as a basis for

analysis.

-For products not currently imported, estimates were made based on CIF Mombasa price quotations, adjusted for costs of transport and handling from Mombasa to Kigali; the latter were based on costs of similar products. Certain minor costs were ignored in this process, since they seemed not to be associated in any obvious way with the volume or value of the product.

-The calculations were generally made at the official exchange rate (although the effects of a possible overvaluation of the exchange rate are discussed in section 3.1.6 below).

3.1.2. Results of previous studies.

A number of previous studies have examined the efficiency of the industrial sector in Rwanda. The two principal studies were undertaken by the World Bank. Their report on the performance of the industrial sector⁷ concluded that the intervention of the government has had a negative overall effect on the efficiency of the sector since it has protected economically un-profitable activities. To place this conclusion on a firmer footing, further analysis was required to examine levels of protection and of efficiency of different productive enterprises.

A second study was aimed in part to answer this need.⁸ This study calculated levels of protection (nominal and effective) and the DRC ratio (on a short-term and a long-term basis) for 20 products made by 14 enterprises.

The results of this study constitute a valuable basis for

⁷ World Bank, Rwanda: the Manufacturing Sector--Performance and Problems of Industrial Policy, Report No. 5302-RW, July 1985.

⁸ World Bank, Rwanda: Recent Economic Developments and Current Problems, Report No 6191-RW, October 1986.

examining the need for improved policies aimed, among other things, at increasing the economic efficiency of the industrial sector. The study concluded that, among the 20 products examined, just half were economically viable as reflected in their DRC ratios, while the other half were non-competitive. Three solutions were proposed to increase the competitiveness of the sector:

i. economize on the use of intermediate inputs in the production process;

ii. decrease the costs of domestic factors of production (for example, the costs of local labor);

iii. downward adjustment in the exchange rate; this change would have the same impact as the previous two combined.

For this last alternative, the Mission examined the effect on the DRC ratio of devaluations of 10%, 20%, 50% and 100%. They found that, even with a devaluation of 100%, only five of the inefficient product lines would become economically profitable, and then only in a short-term context.

The study also presented the following recommendations:

i. The government should progressively reduce the level of protection offered to the producers of the country, which hide their inefficiency behind a barrier of excessive protectionism. Absolute protection should be abolished.

ii. The new system of import programming should be closely followed to ensure that it has a liberal focus.

iii. Trade with other countries of the region should be promoted.

iv. The Rwandan franc should be devalued to replace imported inputs by local materials, to reduce the imports of finished consumer goods (thereby also raising the level of domestic savings), and to adjust the relative costs of factors of production.

v. Interventions were suggested to promote the growth of small and medium enterprises capable of creating non-agricultural employment.

3.1.3. Efficiency of large private manufacturing enterprises: results of the present study.

In order to extend the analysis of the efficiency of the industrial sector of the country, the present study has concentrated on large private manufacturing enterprises; for 15 industrial products, estimates have been made of rates of protection as well as of the domestic resource cost ratio. In addition, the latter ratio has been calculated for two activities of primary product transformation for export (tea and coffee).

3.1.3.1. Domestic Resource Costs. Starting with the most direct measure of economic efficiency, the DRC ratio, four types of outcomes are possible for this ratio:

Category	Net cost in domestic resources (sign of numerator)	Net foreign exchange savings (sign of denominator)	Sign of ratio
1	+	+	+
2	+	-	-
3	-	+	-
4	-	-	+

In the first category, the result sought would be a ratio between

0 and 1, indicating that the foreign exchange savings are larger than the domestic resource costs. A ratio greater than 1 would indicate that, while the activity indeed does bring a net savings in foreign exchange, the costs in local resources exceeds the value of these foreign exchange savings; the activity does not constitute an efficient use of resources.

In categories 2 and 3, the DRC ratio is negative, but this result can come about in two ways. In category 2, the numerator is positive and the denominator negative; the activity is not at all desirable. For category 3, by contrast, the activity economizes on the use of both domestic resources and of foreign exchange; it is highly competitive.

In the fourth category, both numerator and denominator are negative; the activity results in savings in domestic resources, but a net cost in foreign exchange. Whether or not the activity is efficient depends on the magnitudes of the two components. In this case, contrary to that in category 1, a ratio larger than 1 would reflect relative efficiency while a ratio between 0 and 1 would indicate an inefficient use of resources.

The third and fourth categories--those with a negative numerator--seem improbable and exceptional, although three of the 15 cases examined fall in these two categories (one in the 3rd and two in the 4th). The figures are as follows:

Category	No. of products	Product	DRC
1	4	Foam rubber mattresses	0.68
		Hoes	1.79
		Wheat flour	2.35
		Leather shoes	7.82
2	3	Cigarettes	-0.26
		Wire fencing	-0.56
		Barbed wire	-0.75
		Exercise books	-0.86
		Rubber sandals	-0.96
		Plastic shoes	-1.28
		Tomato concentrate	-1.80
		Poly-cotton cloth	-4.30
3	1	Beer	-0.53
4	2	Galvanized sheets	0.15
		Toilet paper	1.61

Source: Study survey. See Annex III for details.

1. The first category is made up of activities which involve a net use of domestic resources but bring a net savings in foreign exchange. Among the products in this category, foam rubber mattresses (RWANDA FOAM) showed a DRC below one, indicating an economically efficient activity. In fact, the ex-factory price of this product (FRw 1,465.5) is not far different from the tax-free import price of similar products (FRw 1,289.9).

The other three products in this category have DRC ratios in excess of 1, indicating that the activities constitute inefficient uses of the country's resources. In the case of hoes, this is understandable to the extent that the activity is new and is in the process of improving its technology. The

flour mill of Byumba is an agro-industry based essentially on domestic raw materials. It has the possibility of introducing backwards linkages with the agricultural sector, but at present its DRC ratio indicates that the activity is inefficient. This result reflects the high cost of the wheat, which constitutes 80% of the price of the flour. In fact, since the analysis for this product is based on the assumption that the enterprise uses only local wheat purchased at a government-controlled price, the measured inefficiency reflects the high cost of the wheat as much as the high cost of its transformation.

The making of leather shoes (moccasins) is the final product in this category. With a DRC of 7.82, this activity shows a high level of inefficiency, attributable to the poor quality of the raw materials used, the low skill levels of the labor force and the out-of-date equipment and technology in use.

2. The second category is one that involves a cost to the economy at the same time in domestic resources and in terms of foreign exchange; the DRC ratio is negative. This is the case for the making of plastic shoes and rubber sandals (ECOMIRWA), of school exercise books (Imprimerie de Kigali), barbed wire and wire fencing (SOFAT), cigarettes of TABARWANDA, tomato concentrate (SORWATOM) and cotton/polyester poplin cloth (UTEXRWA) (see table above and Annex III for details).

3. Activities in the third category bring net savings in domestic resource use as well as in foreign exchange. The sole product in the category is beer. This product shows a high level of economic efficiency (quality questions aside). Its ex-factory price is FRw 66 for a bottle of 72cl, while an imported can of 30 cl can cost FRw 200 before payment of taxes and duties. It is the assumed transport and commercial margins on this high import price which explains the fact that local production is less expensive in terms of domestic resources as well as foreign

exchange.⁹

4. The fourth category contains two sorts of activities:

-those which could be considered efficient since their savings in domestic resources surpasses the extra cost in foreign exchange (this is the case for toilet paper of SOCOBICO); and

-activities with small savings in domestic resources but large additional costs in foreign exchange resulting from domestic production. This is the case for galvanized sheets of TOLIRWA; it involves a clearly inefficient use of resources.

According to this measuring standard, then, 12 of the 15 activities examined were found to be inefficient. In the case of hoes manufactured by RWANDEX CHILLINGTON, the margin of measured inefficiency was small; a modest improvement in their efficiency would move them over into the plus column (and as indicated in section 3.1.6 below, correction for an overvalued exchange rate substantially reduces the measured DRC ratio). For others, there are clear possibilities of improving their position through improved patterns of local raw material supply (as in the case of SORWATOM and the Flour Mill of Byumba). For the other products examined, while one should clearly look for opportunities to buy imported inputs at better prices, to economize on the use of these imported inputs and to be more efficient in the use of domestic resources, one cannot be very optimistic that such improvements would be sufficient so they could be reach a position to be economically efficient. Unless they can present a convincing argument that substantial improvements are under

⁹ The price calculations for imported beer are based on a sample of imports which leaves much to be desired. Since there are no legal commercial imports of beer into the country, the calculations have been based on declarations for non-commercial imports from Europe. Information on the import price of beer from neighboring countries is not available.

way, a strong case could be made for reducing or eliminating their protection, even if this forces them out of business.

3.1.3.2. Rate of Protection

With regard to the second method of analysis, the study shows substantial variations in the nominal rate of protection as well as large divergences between the nominal and effective rates. High rates of protection reflect high costs of transformation, on the one hand, and a system of protection from competing imports through a number of taxes (import duties, fiscal duties, MAGERWA fees, sales taxes) as well as through licenses. The results of the analysis are presented in table 6. These suggest a division of the products analyzed into three categories:

Category	Value added at domestic prices (VA _d)	Value added at world prices (VA _w)	VA _d - VA _w	NRP	ERP
1	+	-	> 0	+	-
2	+	+	> 0	+	+
3	+	+	< 0	-	-

The following comments can be offered on the figures in table 6.

1. Products in the first category benefitted from a high nominal rate of protection and a negative rate of effective protection. The three products in this category include tomato concentrates, school notebooks and wire fencing.

The first category is made up of activities with negative value added at world prices; the foreign exchange costs of the raw materials used in producing these products exceeds the foreign exchange cost of importing the finished product. The high cost of these imported raw materials arises from the excessive prices paid for these materials (whether through overinvoicing or poor

Table 6
Nominal and effective rates of protection

Product	Units	Entreprise	V. A., domestic prices	V. A., world prices	NRP (%)	ERP (%)
Category 1						
Tomato concentrate	Can of 70 grams	SORWATOM	12.40	(0.29)	103.17	(4,303.39)
School exercise books	32 pages	IM KI	11.74	(1.06)	306.34	(1,209.26)
Wire fencing	Roll of 64 kg, 50x20x2	SOFAT	2,668.16	(1,337.01)	159.16	(299.56)
Category 2						
Rubber sandals (patapata)	1 pair	ECOMIRWA	79.60	5.24	148.89	1,419.08
Plastic shoes	1 pair	ECOMIRWA	120.94	11.31	111.07	969.32
Cigarettes	piece	TABARWANDA	0.42	0.12	64.50	243.47
Leather shoes (mocasins)	1 pair	SODEPARAL	2,009.06	698.19	83.43	187.75
Galvanized sheets	USG 39, 3 m	TOLIRWA	129.82	45.57	24.94	184.85
Barbed wire	Roll of 37 kg, 500 m	SOFAT	1,593.23	701.05	30.46	127.26
Poly-cotton cloth	1 yard	UTEXRWA	58.80	28.30	37.42	107.77
Wheat flour	kg	MIN DE BYUMBA	70.60	40.16	75.79	75.79
Hoes	piece	RW CHILLINGTON	176.55	128.02	30.38	37.91
Foam rubber mattresses	190x90x10, density 18	RW FOAM	660.20	486.93	13.61	35.56
Toilet paper	RLX C3	SOCOBIKO	16.23	15.57	26.66	4.21
Category 3						
Beer	72 cl	BRALIRWA	15.64	250.55	(91.44)	(93.76)

Sources: study survey. See Annex IV for details.

purchasing policies) and poor controls of raw material use in the transformation process.

2. The second category, by far the largest (with 11 of the 15 products studied), is made up of those products for which domestic value added is larger than (positive) value added in world prices. Both nominal and effective rates of protection are positive.

In general for this category, the effective rate of protection is larger than the nominal rate. Many of them benefit from fairly high nominal rates of protection (an average of 58% of the CIF-Kigali import price); many are exempt from tariffs on imported raw materials either through special exemptions or through the provisions of the investment code.

One exception is worth noting. In the case of toilet paper, the tariff rates on imported raw materials exceed those in the finished products, so the nominal rate of protection exceeds the effective rate.

3. Among the 15 products studied, only one was found to have negative rates of nominal and effective protection, namely, the production of beer. In fact, in this case the ex-brewery price is substantially below the import parity price.

3.1.4. DRC and exports.

One of the advantages of the DRC as an analytical technique is that it permits a direct comparison between the levels of efficiency of import substitution and export activities. In particular, the DRC ratio has been calculated for the production and transformation of coffee and of tea. In such a case, the ratio reflects the domestic resource costs required by such an activity in relation to the net foreign exchange receipts from the export.

Such a calculation depends heavily on the export price for the product, a price over which Rwanda has virtually no control. The calculated ratio can vary substantially depending on fluctuations in the world price of the export product.

By way of illustration, we have calculated the DRC ratio for the growing, transformation and export of tea. At an export price of FRw 174.7 / kilo (the average price during 1987), the DRC ratio was 0.99.

With regard to coffee, with the average 1987 export price of FRw 187 / kilo, the DRC ratio was 1.187. Using the current (May, 1988) world price of FRw 223.93 / kilo, the ratio falls to 0.98. With the current structure of production and transformation costs, the DRC would fall below 1 whenever the world price is above FRw 220.5 / kilo (127.4 US cents per pound).

Perhaps one should point out in passing that even with the relatively low 1987 world price of coffee, the DRC ratio for this activity is more favorable than for 13 of the 15 import substitute activities examined (that is, for all except mattresses and beer).

3.1.5. Summary of the Calculations

The following table summarizes the results of the analysis of efficiency and rates of protection:

Table 7
Efficiency and Protection: Summary of Results

	DRC	ERP	NRP
1. Most heavily protected: VA_w negative, so DRC negative; ERP negative or very high; NRP above 100%.			
Tomato concentrate	-1.80	-4,303	103
Plastic shoes	-1.28	969	111
Rubber sandals	-0.96	1,419	149
School exercise books	-0.86	-1,209	306
Wire fences	-0.56	-300	159
2. Heavily protected: DRC indicating substantial inefficiency, but with somewhat lower ERP and NRP.			
Barbed wire	-0.75	127	30
Galvanized sheets	0.15*	185	25
Leather shoes	7.82	188	83
Poplin poly-cotton cloth	-4.30	108	37
Cigarettes	-0.26	243	65
3. Relatively little protection, modest inefficiency			
Wheat flour	2.35	76	76
Hoes	1.79	38	30
Toilet paper	1.61*	4	27
4. Clearly efficient, protection low or even negative			
Foam rubber mattresses	0.68	36	13
Beer	-0.53	-94	-91
5. Export activities (DRC ratios only)			
Tea: average world price, 1987	0.99		
Coffee: average world price, 1987	1.18		
actual world price, June 1988	0.98		

* Negative net foreign exchange savings and negative net domestic resource costs.

An overview of these results and comments on their impact on the economy are presented in section 3.1.7. below.

3.1.6. DRC, the rate of protection and the exchange rate.

The calculations presented to this point were based on prices making use of the official exchange rate. A number of studies undertaken within the Rwandan government as well as outside have suggested that this exchange rate is overvalued. There are wide variations in these different estimates with regard to the extent of overvaluation, depending on weighting procedures, prices used for the calculations, the base year used for the comparison, and the method of calculation. In this study we have not examined this question, which has important macroeconomic implications far surpassing the limits of the study. For the purposes of discussion in this section, we use a figure of 30% as a measure of the overvaluation of the Rwandan franc, without any pretension that this figure is based on a careful study; it is used only for illustrative purposes.

If the franc is overvalued by 30%, this means that the price of the country's imports as well as its exports expressed in francs are all 30% below what they would be with an "equilibrium" exchange rate (that is, with a devaluation of 30%). The impact of such an overvaluation has two offsetting effects on the position of an import substitute enterprise in the country:

- they are able to buy their imported inputs at a cheaper price (expressed in francs) than they could with an "equilibrium" (that is, devalued) exchange rate; but

- competing finished products can also be imported at the official exchange rate, which means they would be available at a lower price (when expressed in francs) than in a situation of devaluation.

The first of these effects works in favor of import substitute industries while the second works to their disadvantage. The net impact will vary from case to case according to:

-the importance of imported inputs in the production process;

-the way the enterprise is protected (by tariffs or by licenses; and

-the nature of the competition which the enterprise faces from other domestic substitute products.

These questions are examined in more detail in section 4.2.3.2. below.

The impact of an overvalued exchange rate is simpler in the case of the analysis relating to the DRC. The definition of this ratio indicates that its denominator measures the net savings in foreign exchange resulting from domestic production. This net savings is fundamentally in foreign currency; for purposes of analysis, these foreign exchange savings are converted at the official exchange rate to express them in francs. If the official exchange rate is overvalued, then the "true" value to the country of these foreign exchange savings are higher than what appears in the calculated ratio. The DRC for hoes, for example, would change from the 1.79 shown in table 7 to a net DRC (that is to say, after correction for a supposed 30% overvaluation of the franc) of 1.38.¹⁰ Net measures of the DRC ratio are presented in Annex V, based on the hypothesis of a 30%

¹⁰ $1.79 / 1.30 = 1.377$. This correction could never change the sign of the DRC. If an activity shows a net loss of foreign exchange (rather than a net savings), the denominator would always be negative no matter what exchange rate is used.

overvaluation of the franc.

3.1.7. Efficiency, profitability and protection.

The preceding analysis indicated that nearly all the activities under examination were protected from competition with imported products. In examining the relationship between this protection and the efficiency, profitability and even desirability of different production activities, the following points may be made.

a. Table 7 indicates a close relationship between levels of efficiency (measured by the DRC ratio) and the level of protection. Enterprises with high levels of protection are also the least efficient, while those that are most efficient have only minimal levels of protection.

b. The analysis indicates a wide range in levels of efficiency as well as of protection. One third of the activities examined showed a level of efficiency which is acceptable or even very good. For the other two thirds the measured efficiency is bad or even dreadful.

c. Activities found to be highly inefficient can at the same time be highly profitable to the entrepreneur. Protection gives the producer a monopoly in the domestic market, permitting him to increase his prices to cover his production costs, even if these are very high. For the most part, the highly protected enterprises would never have been started without this protection; their private profitability and even their existence is attributable solely to the protection they receive.

d. Such cases of inefficiency constitute, in effect, a tax on consumers who are obliged to pay a higher price for the product. Tables 4 and 5 on pages 25 and 26 above give an indication of the counterpart of this increase in price: how are

these extra receipts divided up? For cigarettes, more than 80% of the value added goes directly to the government in the form of taxes. For the other enterprises examined, nearly a third of the value added goes to foreigners, and another third to organizations (financial institutions, construction firms) and better-off individual Rwandans (shareholders, upper-level Rwandan staff). 20% of the extra charges born by the consumer go to the state. The remaining 13% goes to workers in the protected industry.

On the other hand, one may point out that the consumers who are forced to pay higher prices for these protected products (rubber sandals and plastic shoes, corrugated sheets, school notebooks, even cigarettes) may be among the poorest groups in the country. It would be difficult to justify this protection by the claim that it brings about a desirable redistribution of income from rich consumers either to lower-income producers or to the state. In the same vein, the contribution of these activities to employment creation is quite limited.

e. An activity judged to be inefficient could still bring benefits to the balance of payments. A DRC which is positive but high would indicate a savings of foreign exchange, albeit at a high cost in terms of domestic resources. But in the present case most of the inefficient activities showed a negative value added at world prices, indicating that they worsened rather than improving the balance of payments position of the country.

f. In principle, one could justify the promotion of activities found to be inefficient by saying that they bring positive externalities: the training of the labor force, a transfer of technology to the country, an outlet for the profitable use for raw materials. These arguments are theoretically valid, even if they are difficult to judge or quantify. In the same vein, one must recognize that the analysis

is essentially static, reflecting the actual current situation. One could hope that, with the passage of time, the level of efficiency might improve. It is based on such reasoning that many analysts have recommended that the level of protection be limited in time (set to decline regularly and disappear after five years, for example). In spite of widespread agreement on this proposition, it is rare in Rwanda as elsewhere in the third world to find enterprises that are ready to accept a diminution in their level of protection, even after several years in business. In the meantime, of course, it is the consumer who pays and the government which loses in tariff revenues.

g. Finally, it must be recognized that the data used in these calculations have a worrisome lack of precision. The specification of the import price of similar products is not at all easy. If Rwanda is to give some importance to such efficiency calculations in establishing a promotion policy, it will be necessary to establish more effective procedures to collect and analyze such information. Furthermore, the accounts prepared by producing firms leave much to be desired. Many of them were not able to prepare acceptable estimates of the cost structure of products they make. An improvement in the business accounting in the country deserves high priority attention for the firms themselves as well as for the establishment of an effective policy of industrial promotion.

Even taking account of all these reservations and qualifications, it is obvious that the current protection policy imposes serious costs on the economy in terms of

- losses to the public Treasury;
- a burden on the balance of payments;
- mis-use of the scarce resources of the country; and
- a transfer of resources and purchasing power from consumers, often of very limited means, to a limited number of producers who are often substantially better off.

Chapter IV will discuss the contents of a more balanced promotion policy.

3.2 The demand for manufactured products.

The narrowness of the national market is one of the major problems facing local producers, along side the difficulties of under-utilization of existing productive capacity, to which it is clearly linked. In fact, many factories may have an installed capacity which is small but which is still under-utilized because of an inability to sell more. The figures reported on page 12 above give a measure of the importance of this phenomenon in Rwanda; COCHABRICORU, RWANDA FOAM and SONATUBES are among the enterprises that have the lowest rate of utilization of capacity.

If one wishes to use up-to-date technology, it is often difficult to find equipment adapted to limited markets. To justify the use of modern technology, it is necessary to seek to sell in regional markets. There are serious problems in this regard arising from high transport costs and labor costs which are higher than those in some neighboring countries.¹¹ In general terms, the exchange rate does not help Rwandan producers seeking to enter such markets, in view of its overvaluation generally recognized in all studies of the question.

To review the importance of different categories of demand for manufactured products, reference is made to the results of the input-output study of Rwanda, which shows how the production of different sectors are distributed among various uses: as intermediate inputs, for final consumption (private or public) or

¹¹ World Bank, Manufacturing Sector: Performance and Problems of Industrial Policy (Report No. 5302-RW, 9 September, 1985), p. 35.

for exports (see table 8).

3.2.1. Household demand.

Most Rwandan manufacturing firms produce products for immediate household consumption. Rwanda's 1985 input-output table treats certain of these transactions as intermediate sales even though in fact they may be immediately resold without further transformation. This is the case particularly for beverages (traditional and modern), sold in part through restaurants, as well as other food products and basketry products, which are sold through commercial outlets but generally without further transformation. For the purposes of our study, we prefer to view these as final consumer sales. With these modifications, such final sales to consumers accounts for 67.8% of all sales of the manufacturing sectors. In more than half of the industrial sectors, more than half of the output goes directly to final consumers.

Manufacturing firms face a number of problems in these sales to consumers:

-The strong propensity of consumers to purchase imported products rather than local substitutes. This problem is particularly serious for enterprises that are not protected. As we have seen in the preceding section, among the large manufacturing enterprises of the country, virtually all are protected either by tariffs or by licenses.

-The build-up of inventories of manufactured products can result in interruptions of industrial production. This happens when importers anticipate the establishment of a new enterprise and associated protection from imports (for example, SOCOBICO and UTEXRWA). It is also a problem when merchants anticipate an increase in sales taxes levied at the producer level, with a subsequent stockpiling of inventories by merchants (TABARWANDA).

Distribution of sales by manufacturing sectors of Rwanda
according to the 1985 input-output table
(as % of total sales of the sector)

Sector	Sales to industrial sectors	Intermediate consumption	Final private consumption	Investment	Changes in stocks	Exports	Total
Coffee, tea	0.0	0.0	0.3	0.0	18.2	81.5	100.0
Traditional beverages	0.0	56.2	43.8	0.0	0.0	0.0	100.0
Modern beverages	0.0	25.0	69.2	0.0	0.4	5.3	100.0
Other foods	22.7	41.1	51.9	0.0	0.5	6.5	100.0
Basketry	0.0	37.0	62.9	0.0	0.2	0.0	100.0
Textiles	0.6	2.2	96.8	0.0	1.0	0.1	100.0
Wood	16.2	76.6	17.2	6.2	0.0	0.0	100.0
Paper, printing	7.3	91.8	2.0	0.0	0.1	6.2	100.0
Chemicals	1.7	8.5	79.5	0.0	0.6	11.4	100.0
Non-metals	0.6	64.6	32.6	0.0	0.0	2.8	100.0
Metals	5.8	60.0	6.5	15.9	0.0	17.6	100.0
Total	2.6	37.1	39.4	1.1	3.7	18.7	100.0

Source: MINIFINECO, Input-output table of 1985.

-The entry of new domestic competition can have the effect of fragmenting an already small market. This was the case for NAMDHARI's mattresses when RWANDA FOAM entered the market with a similar product but at a lower price. Such a development can be important in breaking a monopoly situation, but at a price of a reduced market size for each of the competing producers.

Producers have adopted two procedures to promote their products in local markets:

-Sales on credit: several enterprises have made agreements with government ministries, private or public enterprises, whereby the product is supplied to the employees; the employer then withholds an agreed amount from the salary to pay over time for the product.

-Sales are often promoted through special sales outlets run by the producer or through exclusive sales agreements with retailers. Several manufacturers have sales representatives in prefecture capitals and larger market centers.

3.2.2. Intermediate sales.

Only few manufacturing enterprises produce for intermediate sales to other industrial establishments. According to the input-output table, the proportion of all sales which are made to other manufacturing producers varied between 0% and 22% among the different industrial sectors, averaging only 2.6% of all sales for the manufacturing sector as a whole (see table 8).

With regard to the 34 enterprises examined in the course of this study, only 10 supplied intermediate inputs, mostly to the construction sector. These include TOLIRWA, COCHABRICORU, RWANDA PAINTS, SONATUBES, SIRWA, MANUMETAL, MASSINON, MIRONKI PLASTICS and the printers. None of these supplied exclusively

intermediate products; all were also engaged in supplying finished goods directly to consumers.

The low level of intra-industrial exchange reflects the low level of complexity of the industrial structure; 24 of the enterprises studied produce only final consumer goods. The development of such intra-industrial trade will permit an increase in sales and value added and will help create an expanding market for the manufacturing sector; but such a development should be promoted only for efficient activities.

3.2.3. Public sector consumption.

By public sector sales we mean sales made to the state or to public institutions. Such public sector sales can be important for manufacturing firms, given the overall importance of the state in the national economy. Some examples may be given of the importance of public sector purchases for private manufacturers:

-SODEPARAL supplies leather boots to the army;

-UTEXRWA provides socks to the military;

-MANUMETAL, RWANDA FURNITURE WORKS and NAMDHARI FURNITURE supply the central administration with office furniture and with household furniture for high-level officials in government housing;

-private printers supply their products to the government;

-SONATUBES supplies PVC pipes to public water supply projects.

As a result of procedures used in classifying transactions, such sales do not appear in the input-output table, although they can be important for the firms concerned.

3.2.4. Exports.

The manufacturing branch most heavily engaged in exporting is clearly coffee and tea, for which 99.5% of final sales (aside

from changes in inventories) were for export. The other industrial sectors engaged in limited amounts of exporting include, in decreasing order of importance, metal products (17.6% of sales), chemical products (11.5%), other food products (6.5%) and modern beverages (5.3%). These percentages reflect the inclusion of estimates of illegal exports in the data of the input-output table.

On the whole, these figures make clear the limited importance of exports for the industrial sector, as well as their limited contribution to the solution of the nation's balance of payments problem. Apart from coffee and tea, only 3.6% of total sales of the industrial sectors were destined for the export market.

It is worth elaborating on the illegal exports of the sector. In general, such transactions are not undertaken by the manufacturers but by merchants. Several producers commented on the importance of such sales, which they are aware of in two ways:

- substantial sales take place in towns adjacent to the border (such as Gisenyi and Cyangugu), sales well in excess of what could be explained by the consumption levels of those areas;

- there are wide fluctuations in the level of sales in frontier areas in response to conditions in the neighboring countries (peace or disruptions, effectiveness of control of the border, tariff rates, exchange rates, etc.).

The enterprises which raised this question most often in the course of the interviews were those based heavily on the transformation of imported inputs: corrugated sheets, foam rubber mattresses, aluminum casseroles, etc. Our calculations suggest that several (although not all) of these activities are relatively inefficient. The coexistence of these two facts can

be explained primarily by reference to the exchange rate. Between 1980 and 1986, the real exchange rate between the Rwandan franc and the currency of the five countries of the region appreciated by about 72%. This appreciation resulted from the net effect of two factors:

-regular devaluations of the currencies of the neighboring countries relative to the dollar or the SDR over a period when the franc was pegged first to one, then to the other of these measuring standards;

-relative rates of inflation, generally higher in the neighboring countries than in Rwanda.

The result of these changes is that imports into Rwanda become relatively inexpensive. TOLIRWA is able to buy imported Japanese steel (used in the fabrication of corrugated sheets) at a favorable exchange rate, compared to competitors in other countries of the region. At the same time, this exchange rate handicaps the enterprise if it considers exporting its product to other neighboring countries. But if the export is undertaken by fraud and the foreign exchange receipts repatriated through the parallel market rather than at the official exchange rate, the activity can be profitable.

Consider the case of corrugated sheets. This product requires imported inputs costing FRw 292.18 per piece. Our calculations indicate that it would be possible to import the finished product at a price of FRw 337.76 per piece (exclusive of taxes), a price well below the domestic ex-factory price of FRw 422. But in September, 1986, for example, the official exchange rate between the Rwandan franc and the Zaire was 138 FRw = 100 Zaires, while the exchange rate in the parallel market was 200 FRw = 100

Zaires.¹² A merchant undertaking an illegal export transaction and converting his receipts into francs through the parallel market could give a good reduction on the price in Zaires of Rwandan sheets, making them fully competitive with products from Kenya or other foreign countries.

The problem for Rwanda with such transactions is clear: the official channels must cover the foreign exchange costs of the imported inputs used in the manufacturing process, while the corresponding foreign exchange obtained from the export does not enter into the official receipts of the country. Such trade can then constitute a serious foreign exchange drain for the country. The most effective way of addressing the problem would be to reduce the divergence between the official and parallel market exchange rates.

¹² As of June 1988, the figures had changed but the relationship was the same: the official exchange rate was 42.8 FRw = 100 Zaires, while the rate in the parallel market was 60 FRw = 100 Zaires.

CHAPTER IV: THE IMPACT OF ECONOMIC POLICY:
TYPES AND DIMENSIONS

Our discussions with producers identified a number of dimensions of economic policy which hinder the growth of employment and investment among the large private manufacturing firms of the country. Many of these were also raised in the discussions between the business community and the President of the Republic during the month of May 1988. These problems fall primarily into three areas: the fiscal system, protection, and credit.

4.1. Tax policy.

The breakdown into its components of manufacturing value added indicates that taxes take an important share of the receipts of such enterprises. Discussions with producers make clear that taxes can constitute a heavy burden for them, although for a variety of reasons there is a wide variability in tax burdens between different producers. In the same vein, the fiscal legislation shows certain deficiencies which facilitate fiscal evasion, which are reinforced by a weak staff of tax collection agents. Before entering into the details of the impact of fiscal policy on large manufacturing enterprises, it is appropriate to indicate some major characteristics of the country's fiscal system.

-The domestic tax base is small. Taxes on foreign trade account for 45% of total tax receipts.

-Indirect taxes account for approximately 28% of total fiscal receipts.

-The ratio of tax payments to GDP has increased moderately in recent years, from 9.79% in 1981 to 10.53% in 1987, but remains very low compared to other African countries with

conditions similar to those in Rwanda.

The most important weaknesses of the tax system as it affects the large manufacturing enterprises of the country are the following.

4.1.1. Sales tax (Impôt sur le chiffre d'affaires, or ICHA).

The sales tax (commonly referred to as the ICHA) was established by law no. 1/86 of April 1, 1986. It had as objective the reduction of the relative importance of taxes on foreign trade through an increase in taxes levied on domestic production and sales. This new tax is levied at 6% on both imports and domestic production for all products except a small number of basic necessities (salt, medicine, kerosene) which are taxed at 2%. The major criticisms of the tax raised by the business community as well as by other commentators are the following.

-The ICHA operates in cascading fashion. Enterprises which are not exempt pay the tax on their inputs, which are then incorporated in their production costs; the tax is levied again on the products they sell. MANUMETAL, for example, buys paint from SIRWA as well as metal imported from abroad; the ICHA is paid on both types of purchases. The tax is again levied on the products sold, based on the costs of production (including taxes paid). If one of their products is purchased by another producing firms (e.g. a manufacturer buying metal office furniture), this purchase would be incorporated in turn in their costs and the tax paid a third time. The same would be true if the product is sold through a merchant, with the exception that in this case the 6% would be levied only on the commercial margin of the merchant, but this commercial margin itself is determined on a base which includes the taxes paid.

In sum, the number of times this tax is collected on a particular product is indeterminate, but the resulting impact on the price of the product can substantially surpass the 6% of the tax

itself.

-Problem of timing: the ICHA is paid to the government at the time of purchase of imports or at most 3 months after such purchase or the time of production; it is not recaptured from the purchaser of the product until the time of sale of the product. This can create cash flow problems for the enterprise, specially if the firm accumulates inventories or is faced with a lengthy production process. An unfortunate consequence is that it can lead the firm to minimize production for inventory, varying production levels to match seasonal variations in sales. This is a problem for many enterprises producing consumer goods for which the volume of sales is closely linked to the coffee harvest.

-The burden of the ICHA is shared between the consumer and the producer, the pattern of sharing varying with the nature of the competition in the market. The fact that many producers operate with profit margins lower than those authorized in the law is a clear indication that the full weight of the tax is not passed on to consumers because of the competitive position in which producers find themselves, whether oligopolistic or monopolistic.

-The ICHA law is difficult to interpret and cannot be implemented in practice. Small rural retailers or merchants in smaller towns cannot keep records of each sale, nor is it realistic to think they can fill out the required quarterly declarations. Certain passages of the law are imprecise and leave discretion to the tax collector according to his temperament.

-The naming of the tax is incorrect. As currently defined, it is not a sales tax but a tax levied on the basis of production costs.

In the final analysis, the basic objective of the law, aimed at righting the balance between taxes falling on international trade and those levied on domestic economic activities, is a valid goal. That objective has been partially met, but the ways in which the tax was specified has introduced distortions in the national economy. To avoid these problems, three sets of changes are needed:

1. Make the tax payable at the moment of sale rather than at the moment of purchase or of production.

2. Make the tax base be the sales value rather than the production cost.

3. Eliminate the cascading dimensions of the tax. This could be approached in any of several ways:

-exempt from the tax any sales of products which are used as inputs in the production of a product which is taxed;

-permit a deduction from ICHA payments any taxes already paid on inputs incorporated in the product;

-convert the ICHA into a true value added tax, an approach currently being followed with considerable success by more than 40 developing countries. In fact the second alternative above is one way of moving towards this end.

4.1.2. The patente.

The patente is an annual tax paid by all who are engaged in productive activities. It is considered as a minimum contribution, for which reason it is payable in case of profit as well as of loss. In case the activity is profitable, the tax is deductible from the income tax due; it can then be considered simply as a prepayment of a portion of that tax. But in the case

of losses, the tax must nevertheless be paid and is not reimbursable.

-This tax follows the principle of capacity to pay to the extent that it is deductible from the income tax, but this principle is rejected in cases where the amount due for the patent is less than the income tax liability.

-Since the patente can be deducted from the income tax and indeed can be considered as a prepayment of this tax, it should follow the same principals as the latter.

-For enterprises of different size which are classified in different taxable categories, the non-reimbursable character of the tax can create an inequality of treatment of different enterprises which operates to the disadvantage of small producers.

In sum, the patente should be levied in a manner which varies more closely with profits, avoiding the non-reimbursable minimum tax feature.

4.1.3. The system of levying and verifying taxes.

Taxes are levied on the basis of a declaration made by the taxpayer in which he presents his balance sheet, amortisation reports and income and expenditure statements. The deadlines for presenting these declarations vary according to the tax; for example, for the personal income tax (TPR), the declaration must be submitted within 15 days of the end of the quarter. With regard to profit taxes, the declaration is due by the 31st of March following the tax year for individuals and the end of June for companies.

If errors are found in the declaration, the taxpayer is required to correct the account and settle any outstanding debt within a

specified time. Based on the information submitted, taxes are assessed; the taxpayer has two months to settle the account. Verification is done during the course of a visit to the taxpayer to examine his accounts in detail. This verification must be done within five years. In general, the examination is restricted to the oldest declarations (3-4 years old) to check them before the expiration of the five-year limit. Verification is not done for all declarations. When doubts are raised about a particular case, it is subject to a counter-verification by a special team.

The system of imposition and verification has several major deficiencies:

1. The officially mandated business accounting framework is not clear; the contents of particular categories are not specified in sufficient detail. As a result, the accounts which are presented vary widely from one enterprise to another, making the task of verification more difficult and increasing the possibility of fraud. It must be recognized on the other hand that weaknesses in this area are attributable to the limited training among enterprise accountants as well as to the weakness of the accounting system itself.

2. Deadlines for declarations and payments are short, and severe penalties are imposed for late payments; but the verification process is very slow, as a result of the limited numbers of tax controllers, their limited training and inadequate means of control (vehicles, computers). This has two major results:

- the state's receipts arrive after delays; the slow verification process increases the possibility of fraud;

- from the firm's point of view, the slow process results in

considerable uncertainty and makes fiscal planning very difficult. It can also lead to misunderstandings between taxpayers and tax agents.

3. As indicated above, the number of tax agents is inadequate to the task in terms of numbers as well as training.

Officials of the tax service, 1987

Section	No. of agents	Responsibility
Individuals	12	Kigali
Companies	3	National
Professional tax	6	"
"Six bases"	3	"
Patente	8	"
ICHA	3	"
Vehicles	4	"
Counter-verification	3	"

Source: MINIFINECO

With regard to the level of training, these officials rarely have more than a diploma (diplôme supérieur aux humanités commerciales).

4. From the point of view of the diverse numbers of taxes as well as their published rates, the tax burden in Rwanda is fairly high; yet the tax effort measured in terms of actual receipts relative to GDP is quite low. This suggests that there are substantial leakages in the tax system, often through fraud. Several changes are urgently needed to address this problem: eliminate the delays in tax verification, recruit more agents and strengthen their training, introduce a system of rotation of agents, strengthen procedures for counter-verification and to the extent possible, make this process automatic.

4.1.4. Tax exemptions.

A variety of different categories of exemptions are available to manufacturing firms, each with their own specific conditions. The objective of this system of exemptions is the encouragement of investment and the promotion of employment. Enterprises which benefit from these exemptions are those engaged in certain activities judged to be high priority, all producers in their first year of production, local government enterprises and enterprises involved in social activities. There are four categories of exemptions available to producing units:

1. The investment code.

Following the provisions of the new investment code, 12 manufacturing enterprises (of which 7 are among those covered in this study) have benefitted from exemptions from income taxes, from tariffs on imported raw materials, from land taxes and registration fees, from taxes on capital, and from "all taxes relating to the exploitation and production of the enterprise." The extent of the exoneration varies from case to case, and is specified in each case in a contract between the firm and the government.

2. Public sector enterprises, religious institutions and local government units.

This category of producers as well as organisations and institutions specified by the Ministry of Finance and Economy is exempt from income taxes, personal taxes, and the patente. These provisions introduce clear advantages for those that benefit from them relative to others that compete directly with them in the market but which must bear the full burden of taxes (for example, in the case of the printers).

3. Specific categorical exemptions.

To encourage new enterprises at the time of their establishment and to support certain kinds of productive groups, all new

establishments are exempt from the patente during their first year of production; cooperatives engaged in production or in artisanal activities are exempt from the patente for their first five years of operation.

4. Specific case-by-case exemptions.

The Minister of Finance and Economy can exempt particular enterprises from the payment of import duties on raw material inputs as he judges necessary. The same is true for machinery and equipment at the time the enterprise is established.

This system of tax exemptions has a number of problems.

1. The enterprises selected for promotion are not necessarily the highest priority ones for the country from the point of view of equity or efficiency of resource use. The analysis of chapter III suggests that, in spite of the use of evaluation criteria, a significant number of enterprises which have benefitted from the investment code provide only limited benefits to the economy although they imposed significant losses on the government budget (for example, SORWATOM, SOFAT, UTEXRWA). Other exemptions are granted either by provisions of the law or by specific rulings, but often based on criteria which are inadequate or imprecise.

2. The magnitude of the exemptions. It is difficult to determine objectively the optimal magnitude of exemptions which should be accorded to a particular producer. This might be approached in balancing the rate of return, which must be acceptable to the producer, and the revenue loss to the government, which must not be excessive. The actual rate of return to the entrepreneur is a function of the efficiency of the enterprise as well as the rate at which it is taxed. The more one exempts the enterprise from taxes, the more one reduces the pressures on the enterprise to improve the level of efficiency.

In principle, the exemption should be set at the lowest level possible, since to increase it further reduces the pressures for better management of resources, whether in situations of monopoly or of competition. With a high level of exemption, even barely profitable enterprises can continue to subsist. The clearest case would be a situation where there are several competing producers of which only one is exempt from taxes and can therefore continue to operate in spite of higher costs. A high level of exemption would sharply reduce the pressures on such a firm to control these high costs.

An excessive rate of return for an enterprise indicates that the exemption accorded them was more generous than necessary; the goal, let us recall, is to assure the enterprise of only a minimum rate of return after tax. Studies undertaken in the Ministry of Finance and Economy, General Direction of Economic Policy, show that the exemptions accorded to private manufacturing enterprises through the investment code alone result in a very significant loss of revenue to the Treasury.

A specific example can be offered.¹³ In its application for tax relief under the investment code, UTEXRWA submitted to the government figures on net benefits, cash flow, resources and their uses. These estimates, submitted in 1986, were based on the following hypotheses:

- investments for weaving (Phase II of the project) would be completed as scheduled (1987 and 1988). Spinning would begin in 1989.

- The enterprise would be given full protection from imports for all the products which it produces: all products in the

¹³ D. Mead and A. Ngirabatware, "Cas d'UTEXRWA", Internal document, PRIME Project, MINIFINECO, pp. 5-6.

tariff categories 51.04, 55.09 and 56.07 with the exception of certain products which they do not produce.

Based on these hypotheses, with no exemption at all from taxes one could foresee a rate of return of 15.5% for the enterprise. With five years' tax holiday, this rate of return would increase to 20.5%, while with ten years of exemption the rate of return would be 24.6%.

With regard to the loss to the treasury from such tax exemptions, in the case of a five year tax holiday the loss would amount to 1.3 billion francs; with 8 years of exemption, the loss would increase to 1.6 billion francs. In view of the rates of return predicted for the enterprise based on different exemption assumptions, the serious situation of the public budget, and the magnitude of the losses resulting from such exemptions, it is difficult to justify the eight years of tax holidays which have been accorded to the firm.

3. Inequality of treatment of different enterprises. As indicated in the examination of the allocation of value added in different manufacturing firms (see section 2.6.4. above), there is considerable variation in the level of tax payments relative to the profits of the enterprise. Aside from BRALIRWA, TABARWANDA and RWANDEX, all of which manufacture products subject to high levels of specific taxes, the ratio of total taxes paid to net profits before tax ranged from 0% to over 100%, according to the figures presented by the firms themselves. This inequality of treatment does not reflect any explicit policy but rather the fact that firms are subject to a wide variety of separate taxes, many of which are determined in ways which bear no relationship to either the profitability or the size of the enterprise. As a result, small and enterprises and artisanal producers can find themselves handicapped in their search for growth, and may prefer to continue to operate in the informal

sector. This suggests that one dimension of a tax reform in Rwanda would be to apply a proportional system of taxation, or at least to decrease the relative importance of those taxes which are not proportional to income or to profits, while increasing the share of those which vary with these measures of taxable capacity.

4. Slowness of decisions on the investment code.

Enterprises apply for the benefits of the investment code with alacrity, but up to now the decisions on these applications have been very slow. The waiting period can last five years or more (MIRONKO PLASTIC INDUSTRIES). As a result, it is difficult for enterprises to plan ahead; furthermore, in the meantime enterprises sometimes benefit from special exemptions, to the detriment of the national economy. Even with the new and more detailed criteria and procedures of the new investment code, the information to be submitted remains enormously complicated and can easily discourage a potential investor. At the same time, it must be recognized that a part of the blame for the slowness of decisions rests with the entrepreneurs themselves who often take an inordinately long time in submitting the required information.

5. Retroactivity of the investment code.

The loss of revenue to the government is increased as a result of the non-retroactivity of the investment code. In effect, when the benefits of the code are offered from the start of operations of the firm, it is probable that at the start the enterprise would earn only limited profits or perhaps even operate at a loss. In such a period the exemptions would cost the state little or nothing. By contrast, it is when the enterprise is in full operation that the losses to the state from tax exemption become much more significant.

Since the investment code provisions are not retroactive, firms have an interest in obtaining their exemptions not at the start

but during later periods of higher production and profits. The government should take account of this in determining the period of exemption of the firm, reducing this period if it is offered covering a later period of higher profits. Alternatively, the problem could be resolved by requiring the enterprise to apply for the code benefits at the time of their first establishment, and by ensuring that decisions on the application are made without delay. New regulations are required in this regard to require that an entrepreneur submit his request for tax exemption during his first year of operation.

6. If the new tariff code exempts most exports from export taxes in order to encourage such activities, it is entirely logical by the same reasoning that imported inputs used in the production of export products should likewise be exempted from taxation. This is the case for SIRWA which finds it cannot export its sanitary wares since these incorporate imported fittings which are then taxed as reexports (that is to say, at 100% of their value).

To implement this idea, one would need:

- technical coefficients indicating the quantity of imported inputs used in the production of specific exports;

- information on import duties paid on these imported inputs;

and

- procedures whereby such taxes could be deducted either from other tax liabilities of the producing firm or from tariffs to be paid on subsequent imports of similar inputs.

7. Exemptions from tariffs on imported semi-finished products used in the production process. According to the current law, imported raw materials used in the production

process can be exempt from customs duties, while semi-finished products are not. But the distinction between these two is not at all clear. In the case of ECOMIRWA, for example, plastic granules are considered as raw materials (and hence exempt) while sheets of rubber are considered to be semi-finished products (and hence taxed), although both have undergone preliminary industrial transformation before import and both play essentially similar roles as inputs in the production process. It would be logical and desirable to extend to such semi-finished products the tariff exemptions currently available for raw materials, with the extent of exoneration varying inversely with the degree of transformation which the input has undergone.

4.2 Protection Policy

4.2.1. Generalities

In spite of reservations concerning the quality of the data and problems of quality comparisons with imported products, this study confirms the results of previous analyses that the manufacturing sector in Rwanda enjoys a high level of protection. It is normal that, in Rwanda as in other developing countries, import-substitute industries should be protected during their early years. In effect, subsidies--whether direct (injection of funds) or indirect (protection)--are often necessary and justifiable for enterprises during periods of learning, during phases of experimentation with new technologies, or to compensate for positive externalities which the enterprises provides to the rest of the economy.

Among the instruments of industrial promotion, protection policy is by far the most powerful instrument for promoting investment and employment and for influencing the allocation of resources in the economy. At the same time, it is also the most complex instrument of policy, the most difficult to specify and manage. Its use has implications which far surpass the situation of the

individual enterprises chosen for promotion. In fact, this is an area where it is particularly important to take account of both micro- and macro-economic effects in the formulation of policy.

The establishment of such a protection policy requires answers to four different questions:

-What types of activities should be protected?

-How should they be protected (i.e. using what instruments of policy)?

-Over what period should they be protected?

-What should be the procedures for decision-making in this area?

These issues are examined in successive sections.

4.2.2. The activities to be protected.

Protection policy, as its name suggests, consists of the protection of domestic producers against competition from imported products. This means that this policy can only be used to promote a particular type of activity: that of import substitution. The formulation of a comprehensive policy of industrial promotion requires that the use of this instrument be balanced by others to support the growth of other types of enterprises which do not benefit from protection policies (e.g. exports, small enterprises, services, etc.).

Under current conditions in Rwanda, protection policy has had its strongest impact in cases involving the transformation of imported inputs. It is precisely in such cases that a modest level of nominal protection (for example, 20-40%) can offer a much higher level of incentives to domestic producers (the

effective rates of protection in such cases can easily reach 100-200%). This is the case in Rwanda for galvanized sheets, for barbed wire, and for textiles (see table 6, p. 40). With nominal rates of protection in higher ranges (100-300%), the incentives offered to domestic enterprises can be enormous (as in the cases of exercise books, wire fencing, plastic shoes and rubber sandals). The more the activities of a producer are focused on the transformation of imported inputs purchased with little or no import duties, the more a given tariff on competing finished products will increase the potential returns to domestic producers, thereby promoting an increase in domestic production. The results of the study thus suggest that industrial promotion through protection policies has offered the strongest incentives to those activities which are least well suited to the economic development of the country.

It is important at the same time to point out that in the case of Rwanda there are transformation activities based on imported inputs which have succeeded very well in operating efficiently. The calculations of chapter III suggest that the manufacture of hoes, of foam rubber mattresses and of toilet paper are all based primarily on imported inputs but have attained a level of efficiency which is acceptable or even very good.¹⁴

These considerations indicate the importance of formulating specific criteria for activities to be protected based on projections concerning the ability of the enterprise to operate efficiently (and not only to be privately profitable) within a limited time period. This could be measured through estimates of the effective rate of protection or of the DRC ratio.

¹⁴ For all three of these products, the effective rate of protection is below 40%. The DRC ratio is above 1 for two of the three but remains below 2 in all three cases, indicating modest inefficiency but not to an excessive extent.

4.2.3. How to protect?

The second question to be examined concerns the method of protection. There are three policy instruments to be considered here:

-tariffs on competing imports;

-quantitative restrictions in imports by quotas or licenses;
and

-modifications of the exchange rate.

Other protection policies are less often followed in less developed countries: non-tariff barriers, direct or indirect subsidies to specific economic activities. These are not used to any significant degree in Rwanda.

Each of these policy instruments has advantages and disadvantages for the producer as well as for the national economy. In subsequent discussion we examine first the question of protection via tariffs with that offered by licenses. Thereafter we compare these two methods with interventions involving the exchange rate.

4.2.3.1. Tariffs vs. licenses.

In actual practice, protection in Rwanda is based on a combination of tariffs and licenses. The following products were fully protected by licenses as of 21/4/1988:

1. Corrugated sheets
2. Blankets and dish-towels
3. Packing cartons
4. Plastic products made by MIROPLAST
5. Hoes
6. Pasta (noodles, macaroni etc.)
7. Soap (except medicinal)

8. Insecticides for household use
9. Candles
10. Radios of type made by MERA
11. Foam rubber mattresses
12. Cloth of type made by UTEXRWA
13. Toilet paper
14. Nails

Source: National Bank of Rwanda

In addition to this list, other products are protected by license on a case-by-case basis depending on the availability of local substitutes.

The importance of protection by tariffs or licenses can be approached by examining the relationship between the sales price of imported products inclusive of all taxes and tariffs (SP_m) and the ex-factory sales price of domestic products (SP_d). The products examined fall into three categories:

	SP _d	SP _m	SP _m /SP _d
Category 1: SP _m far above SP _d			
Foam rubber mattresses	1,465.5	2,472.6	1.69
Cigarettes	1.1	1.75	1.59
Barbed wire*	3,821.0	5,498.0	1.44
Beer	66.0	964.0	14.61
Category 2: SP _m somewhat above SP _d			
Polyester cotton cloth	112.0	127.4	1.14
Galvanized sheets	422.0	471.4	1.12
Hoes	260.0	278.0	1.07
Toilet paper	41.0	42.4	1.03
Category 3: SP _m below SP _d			
Leather shoes	2,882.0	2,736.0	0.95
Wheat flour	70.6	65.3	0.92
Plastic shoes	207.0	181.0	0.87
Tomato concentrate	25.0	19.2	0.77
Wire fencing*	6,522.0	4,789.0	0.73
Rubber sandals	163.0	110.0	0.68
School exercise books	20.0	6.3	0.31

*For barbed wire and wire fencing, tariff rates have recently been sharply increased; prices of imported products currently exceed those of domestic products.

For those products in the first category, import prices SP_m are substantially above the ex-factory prices of domestic products (SP_d). These products are well protected by tariffs; in fact the level of these tariffs can be considered as redundant (i.e. higher than necessary to provide complete protection to local producers).

In the second category, SP_m is somewhat higher than SP_d. In these cases, prices in the Rwandan market seem to have been

established taking account of the price of imported products (after payment of tariffs). In addition, though, three of the four products in this category are in fact also protected by licenses.

For the products in the third category, duty-paid import prices are below those of local producers. In general, one would expect in such cases that the national producer would have a difficult time establishing his product on the local market. In such cases, protection is assured by means of licenses.

In examining the relative advantages and disadvantages of protection via tariffs as opposed to licenses, we start by looking at the special characteristics of tariffs, then pass to similar questions for licenses.¹⁵

a. Tariffs have two major advantages relative to licenses as instruments of protection:

-Protection by tariffs permits direct competition between domestic products and imports. This competition is modified by the increased price of imported products as a result of the customs duty; but with this modification, competition continues to operate from the point of view of price as well as of quality of product. Competition is thus modified but not eliminated. While such competition will probably not be welcomed by the producer, it can surely benefit the consumer in that it leaves (modified) market forces to press on the domestic producer, inducing him to reduce production costs and to maintain a high quality for his product.

¹⁵ It is possible to provide absolute protection to an enterprise either by licenses (that is, with complete non-issuance of licenses) or by tariffs (by establishing a tariff rate high enough so nothing is imported). In such cases, the difference between the two forms of protection disappears.

-Protection, in whatever form, results in a decrease in the quantity of imported goods available in the market. In such a situation of created or artificial scarcity of imported products, there is a surplus of value for the imported products which are available on the market: the consumer is willing to pay more for the available quantity of the product than it costs. In the case of protection through tariffs, this surplus is collected by the government in the form of customs revenues. If on the contrary protection is offered through licenses, that surplus will be at the disposition of those fortunate enough to be able to obtain the limited quantity of imports made available in the country. It is very difficult to avoid a situation where the officials issuing the licenses make them available on the basis of favoritism.

b. In a two-way comparison of this type, the advantages of a system of protection via tariffs may constitute the disadvantages of protection by licenses, and vice versa. Here again, once can recognize two major considerations:

-The certainty of impact. With a system of protection by licenses, one can know precisely the quantity of imported products which will be admitted into the country. For planning of the balance of payments, this is surely an advantage, just as it is an advantage for the individual entrepreneur to know that imports will only be able to deprive him of a specific portion of his market.

This certainty can be seen as the converse of the first advantage discussed above for tariffs: the interaction of forces of supply and demand in the market leaves a (modified) role for competition, but in the meantime leaving a margin of uncertainty as to the quantity which will be imported. Protection via licenses diminishes or eliminates this uncertainty, but at the

same time it diminishes or eliminates the market pressures exerted on domestic producers by competition from imported products.

-With the laws currently in force in Rwanda, modifications of the tariff structure are the responsibility of the Conseil National de Développement. Such modifications follow procedures which are lengthy and time-consuming, which are not conveniently undertaken frequently or regularly. In contrast, the department with responsibility for the issuance of licenses (the Département de Change of the BNR) is free to modify the issuance of licenses according to criteria established by the administration. Licenses thus constitute a much more flexible instrument of protection than tariffs.

In our view, the two advantages cited above for offering protection through tariffs rather than licenses are convincing and predominant. The government should seek to diminish the role of licensing in its protection policy, relying more on tariffs. It is clear that movement in this direction would require finding more flexible mechanisms for adjusting the tariff structure.

4.2.3.2. Tariffs and licenses vs. the exchange rate.

A devaluation is not primarily an instrument of protection, although it contains dimensions of protection. The principal goal of an exchange rate change is usually to influence the allocation of resources in a country and through this mechanism the balance of payments by altering the structure of relative prices. A devaluation of the Rwandan franc would increase the price in local currency of all imported products.¹⁶ With a devaluation of x%, the price in francs of all imports, whether

¹⁶ The value in Rwandan francs of foreign exchange receipts from exports would also increase in parallel. This aspect is discussed below.

intermediate inputs or finished products, would increase by x%.¹⁷ The impact of such a change on the situation of a domestic import-substitute enterprise is not obvious. On the one hand, the cost of imported inputs would increase in the same percentage as the devaluation. On the other hand, domestic costs of competing imported finished products would increase in the same percentage. If these two changes permit the domestic producer to increase his sales price, he could find himself in a stronger position than previously; in this case, the devaluation would have increased his level of protection (nominal as well as effective). But the data presented previously (page 75 above) suggest that there is no close connection between the domestic price of imported products and the ex-factory sales price of competing local products. This depends on the other forms of protection provided to local producers (particularly through licenses), the competitive situation vis-à-vis other domestic producers (for example, RWANDA FOAM and NAMDHARI, both of which produce mattresses in a protected domestic market) and the competition from other domestic substitute products (for example, tiles are in competition with galvanized sheets, fresh tomatoes compete with tomato concentrate, etc.).

In the actual circumstances of Rwanda, it is probable that in the case of a devaluation:

-manufacturing enterprises would increase their sales prices to cover the increased costs of imported inputs;

-these enterprises would not face problems of increased competition from imported finished products, since protection would be provided either through licenses or through the fact that the price of finished competing imports would increase in

¹⁷ This supposes that the price in foreign currency of imports would not change with a devaluation, a reasonable assumption for a small country such as Rwanda.

the same proportion as the cost of imported inputs; but

-the increase in the price of these products on the national market would bring about a decrease in the sales of such products as consumers replace them with other substitutes whose prices did not increase. In fact, one of the objectives of a devaluation would be precisely to induce consumers to make such substitutions, replacing products heavily based on imported inputs (such as galvanized sheets) by others which rely more heavily on domestic raw materials (such as tiles). At the same time, it is clear that such substitutions would pose problems for local producers relying heavily on imported inputs. These would be forced to improve their efficiency, to accept lower returns on their investments, or to close down.

It follows from this discussion that a devaluation can increase, leave unchanged or decrease the level of protection accorded an import-substitute industry; all depends on the importance of imported inputs in his production costs and on the nature of the competition he faces in the domestic market. Thus the level of protection is related to the level of the exchange rate, but in ways which cannot be generalized but must be examined on a case-by-case basis.

Conversely, protection offered through tariffs and licenses constitute a partial substitute for policies involving a modification of the exchange rate. Such protection is aimed at the reduction in foreign exchange expenditures for certain categories of imports. In a situation of foreign exchange scarcity, such a decrease in the demand for imported products reduces the pressure or the necessity for modifying the exchange rate. The alternative to these product-by-product reductions in imports through tariffs and licenses would be a devaluation which would raise the price in local currency of all traded products, whether imports or exports.

At present in Rwanda, import programming by licenses is not only as a means of protecting local producers but also of limiting the demand for imports to match the available supplies of foreign exchange. Programming thus constitutes a partial substitute for a more active policy of modification of the exchange rate.

Compared to this alternative method of managing the balance of payments, the instruments of protection (tariffs and licenses) have two primary characteristics:

- they operate in a fashion which differentiates between different imported products, giving strong incentives for import replacement for some products and none for others, while an exchange rate change would provide the same incentives for all;

- they deal with the foreign exchange shortage only by seeking to curtail the demand for foreign exchange through reducing imports, and not through increasing the supply of foreign exchange by stimulating an expansion of exports. An approach to balance of payments equilibrium which operates only by restricting the demand for imports leaves the country with an exchange rate which is relatively overvalued, a situation which hinders an expansion of exports and reinforces a pessimism concerning the possibilities of such an increase. It is clear that the expansion of exports in Rwanda is a difficult task which will require a variety of types of interventions, many of which are currently being addressed in the new CCIR-ITC export promotion project; but as long as exportable goods continue to have to overcome the price disadvantages inherent in an overvalued exchange rate, these interventions will have a difficult time succeeding.

4.2.4. The period of protection. All who have examined the question seem to be agreed that protection, when it is

offered, should be available only for a limited period of time. This can be explained in terms of the original justification for protection: to help newly-established enterprises during their learning period. After such a transitional period, they ought to become competitive with imported products and hence to need no further protection.¹⁸

While there seems to be widespread agreement on the principle of limiting protection over time, the means of implementing such a policy is not obvious. It is perhaps for this reason that, up to now, there have been virtually no cases of reduced levels of protection, even after several years of production for a number of Rwandan producers (MIRONKO, RWANTEXCO, MERA).¹⁹

If protection is provided in the form of tariffs, one might propose that this tariff level be reduced according to a regular schedule. After four years of full protection according to the tariff code, for example, the rate could decrease by 20% per year over five years, to be eliminated in the ninth year. The implementation of such a procedure for a number of different products would be a major challenge to lawyers as well as to customs officials.

If protection is provided in the form of licenses, procedures could be relatively simple. One would then announce that, as from the fifth year, the National Bank would be ready to issue

¹⁸ For manufacturing activities not based on imported inputs, high transport costs provide significant levels of natural protection to local producers. This natural protection is permanent (unless transport costs decrease) and occurs without intervention on the part of the government.

¹⁹ In a recent change, the government has expressed a willingness to issue licenses for the import of galvanized sheets; but the level of tariffs for this product is high enough to provide complete production for this product, even if licenses are freely available.

licenses for imports equal to an increasing portion of the national market: 20% in the fifth year, 40% in the sixth, etc.

In the absence of some such agreement, one must resign oneself to the idea of protection becoming a permanent fixture which, once introduced, can only increase through the addition of new products to the protected list.

4.2.5. The decision-making process in the protection area. Several aspects of this question have already been addressed, relating to the procedures for setting tariffs and for issuing licenses. One further issue remains to be examined. A new entrepreneur considering investing in the country has the right to know, before he commits himself to a particular investment, whether or not he will be protected, at what level, and for what period.

In general, authorization to start a new business should be freely available to all who request it, on condition that the activity not present health or safety problems, that it not result in an unsustainable loss of foreign exchange for the country, and that it not bring about an inefficient allocation of the nation's resources. Competition is one of the most effective means for bringing about a reduction in production costs. With regard to indirect subsidies to enterprises either through tax holidays via the investment code or through protection from imports, precise criteria are needed for determining who will benefit, criteria which are known in advance by potential investors. The entrepreneur has the right to know to what extent he will benefit from such provisions before he makes his investment decision. On the other hand, of course, the government has the obligation ensure that, once these advantages are provided, the producer follows the investment and production program on the basis of which the advantages were granted.

4.3. Policies relating to credit and its availability

The contribution of the Rwandan banking system to the economic development of the country has been a constant concern of the nation's monetary authorities as well as to those responsible for overall economic policy. This contribution can be examined in terms of an enumeration of the financial institutions and the services they offer to their clients, the credit offered to different types of borrowers and the patterns of change in this lending, the amount of employment created, the tax payments of the financial institutions, etc.

The National Bank of Rwanda (BNR), in conformity with the responsibilities conferred on it in the area of saving and credit, supervises and controls the formal financial sector. In the determination of the credit policy of the country, the National Bank has a major and direct impact on the evolution of industrial enterprises, small, medium and large.

4.3.1. Overall dimensions of credit policy

With a view to promoting the expansion of investment in priority sectors of the economy, the National Bank makes use of two principal tools of control: credit ceilings (and the corresponding possibilities of making loans "outside the ceilings,") and control of the structure of interest rates.

a. The system of credit ceilings

The system currently in force takes account to a certain extent of the needs of large manufacturing enterprises and in particular their needs for long-term credits. The monetary authorities wish to lead the commercial banks away from their traditional role in the provision of short-term credit, particularly for commercial activities. In this regard, they offer higher ceilings (and therefore permit a higher level of lending) to those banks with more of their liabilities in longer-term categories. In dividing

the global credit ceiling among the financial institutions, the National Bank recently changed the bases of credit allocation to eliminate deductions for fixed investments, for capital participations or for doubtful loans; instead, they have adopted the following system of weighting:

-Net paid-up capital plus deposits of more than one year (Bons de Caisse)	2.0
-Deposits without fixed terms	2.0
-Term deposits of less than one year	1.5
-Sight deposits	1.0

These new weighting procedures encourage the banks to seek longer-term deposits and to increase their paid-up capital in order to be able to grant more short-term loans (within the higher ceilings) as well as longer-term loans (outside the ceilings).

In 1979, the National Bank defined the categories of loans to be considered as outside the credit ceilings; at the start, these included only credits for coffee and loans to communes. Since that time the list of activities outside the ceilings has been extended to such an extent that the only category of loans still included in the ceilings is that of commercial activities.

b. Interest rates.

The National Bank fixes maximum interest rates on loans and minimum rates on deposits. The reforms of November 1979 established a range of deposit rates according to the period of the deposit. Loan rates ranged from 5% for export credits to 17% for loans for non-utilitary vehicles. With regard to deposit rates, interest was paid only on term deposits, at rates varying from 6% on one month deposits to 9.5% on 5 year certificates of deposit.

As of July 1, 1987, the National Bank brought the ceiling for deposit rates down to 3% while for loans the maximum rate was 12%. For activities defined as being of first priority, the maximum loan rate was 9%. For export products other than coffee, the loan ceilings were fixed at 6% and 5% respectively for storage and exporting.

The reduction in interest rates on loans along with the establishment of higher loan ceilings for institutions with more of their liabilities of a longer-term nature should help make the financial system more responsive to the needs of the industrial sector.

4.3.2. Availability of credit for large manufacturing enterprises.

While the overall savings rate in the economy remains low, the large manufacturing firms of the country are generally well served in the area of credit, for longer-term loans as well as for overdrafts. It is true that their share in the overall credit picture is relatively small, but this is largely due to the limited role of such enterprises in the economy as a whole. Few of the large producers had any complaints about the availability of credit. The pattern of lending in 1986 is shown in table 9.²⁰

The BRD has a central role in the financing of industrial investments; 44.6% of the medium and long-term loans received by the large private manufacturing firms were made by the BRD. In addition, the Bank plays a significant role in equity financing;

²⁰ In the operational program of the BRD for 1987-91, it is stated that from 1982 to 1986 that Bank's loans to the industrial sector accounted for 62.5% of their loans; the service sector received 24.1%, while primary production received 13.4% of loans. The large differences between these figures and those of the National Bank shown in table 9 can be explained by differences in definition of the sectors.

Table 9

Distribution of credit by sector and by financial institution,
Dec. 31, 1987 (in percentages)

Activity	BCR	BK	BACAR	BOBP	CER	BRD	CHR	BNR	Total
Agriculture and livestock	42.5	46.5	22.8	23.7	10.2	32.3	0.0	8.3	34.0
of which, coffee	35.4	37.3	21.9	0.0	0.0	0.0	0.0	0.0	22.2
Manufacturing	2.1	18.3	0.9	0.0	0.0	41.2	0.0	7.8	10.9
Electricity and gas	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Buildings and public works	4.2	2.7	5.2	0.0	2.3	0.0	0.0	9.5	3.0
Commerce	33.9	15.7	49.2	13.8	34.6	6.2	0.0	0.0	26.0
Services	2.2	3.1	0.5	0.0	0.3	17.0	0.0	46.1	9.7
Individuals and others	15.1	13.5	21.1	62.5	52.5	3.2	100.0	28.3	21.4
Relative share of each bank	31.3	20.8	15.6	7.6	6.9	14.9	1.2	1.7	

Source: BNR

7.2% of the share capital of the large firms covered in this study were owned by the BRD.

4.3.3. The stimulus necessary for the promotion of large manufacturing enterprises through the credit system.

The Central Bank needs to ensure that the financial institutions strengthen their efforts in the financing of industrial activities, in view of the important role these enterprises must play in the growth of the economy. For agro-industries in particular, commercial banks should be encouraged to accept a higher degree of risk.

4.3.3.1. Manufacturing enterprises have been very much bothered not only by the slow authorizations to establish their operations but also by the long delays in obtaining bank credit. These delays can come from very slow administrative procedures (review and re-examination of the loan requests, evaluation of loan guarantees, etc.) as well as because the promoter himself is slow in providing the required information.

A code of conduct is needed for government authorizations as well as for the granting of credit. With the establishment of a common approach in this area, agreed upon by those who will process the requests and made available to those who will prepare them, the delays in both approval processes could be substantially reduced.

4.3.3.2. Large manufacturing enterprises need regular advice not only in the area of management but also with regard to alternative sources of finance, short term as well as long term. For example, they could benefit from better information on external lines of credit on which they might draw and on the terms for such credit lines, which they could then compare with those of normal suppliers' credits. In recent days a number of established enterprises have approached the BRD to ask that the

latter institution take over some of the loans previously contracted abroad. In some cases the BRD has refinanced such loans for which they themselves had previously acted as guarantor. The businessmen were concerned about the exchange risks inherent in loans denominated in foreign currencies. The introduction of a system for covering such risks would be helpful in permitting them to continue to rely on external sources of finance.

4.3.3.3. BRD financing goes primarily to the large manufacturing and agricultural enterprises in Kigali and in a few secondary towns. With the principle of decreased specialization of financial institutions (permitting all such institutions to undertake all types of financial activities rather than restricting each to one or two categories of transactions) and the minimum lending requirements by type of activity adopted during the past year, one can hope that viable investment project will be able to obtain financing more readily and on more favorable terms.

At the same time, this principle of de-specialization needs to be reexamined and clarified. There is some contradiction between the de-specialization regulations, which permit financial institutions to engage in all types of lending, and the credit floors by loan category, which require that each bank lend at least a minimum amount for specific types of activities.

In the case of the traditional primary source of long-term lending for manufacturing enterprises in the country (the Development Bank), the de-specialization new regulations will have little effect on their lending patterns. In effect, speculative and commercial credits are the most profitable and the least risky types of loans, but they contribute relatively little to the development needs of the country so the new regulations should not lead the Development Bank to increase this

type of lending.

At the same time, the Development Bank will not be able to reduce significantly the share of its loans going to large enterprises in a major shift towards small producers. It is in lending to the larger firms that they earn the highest returns and with the lowest risks. Loans to small enterprises, by contrast, generally have a higher share of bad debts as well as higher administrative costs. In order for the BRD to maintain its overall financial viability, it is necessary to pursue two approaches simultaneously:

- increase the level of lending to large enterprises, to generate the profits needed to cover the added risks of small enterprise lending; and

- look for ways of reducing the administrative costs as well as the additional risks associated with small enterprise lending, perhaps in combination with outside assistance to cover a portion of the supplementary costs associated with such lending.

4.3.3.4. The primary credit need among large manufacturing firms is for longer-term loans. The commercial banks only supply modest amounts of medium and long-term lending, for two principal reasons:

- there is only a limited amount of resources available to them on a long term basis (an average of 56% of their deposits are sight deposits); and

- the banks have the option of making short-term loans which earn quite high returns.

To induce the commercial banks to change the structure of their portfolios, then, the following changes can be suggested:

1° The National Bank should encourage the commercial banks to seek longer-term deposits, with more flexible interest rates which would result in a larger margin between deposit and lending rates for longer term deposits and loans. Banks would then have more flexibility in fixing interest rates for loans with higher risks or higher administrative costs.

2° The policy of credit ceilings for commercial loans or loans for more speculative purposes is a desirable one to be supported.

4.4. Other aspects of economic policy.

In addition to the three principal areas of economic policy discussed above (tax policy, protection policy and credit policy), other aspects were also raised in the course of discussions and subsequent analysis.

4.4.1. Transport.

The cost of international transport weighs heavily on the price of imported products as well as diminishing the receipts to producers of exported products.

-Transport costs set by Rwandan companies can be 30% higher than those of competitors from neighboring countries. Even Rwandan transporters not subject to controls are often ready to accept charges which are substantially lower than those established by STIR and CORWACO. A study of comparative transport costs for Rwandan and Kenyan operators could help identify why those of Rwandan transporters are so much higher and in this way set the stage for policies for reducing these costs.

-A recent study of MINITRANSCO indicates that taxes account for 10% of the transport costs by truck from Kigali to Mombasa.

It would be desirable to exempt from such taxes the transport of new export products for a limited period (say, for the first five years), to help such products become established on the world market.

4.4.2. Price controls.

The Ministerial Arrêté No. 02/ECO/87 of May 20, 1987 has greatly simplified the procedures for price control, replacing regulations requiring prior authorization on prices with new procedures whereby enterprises must simply report on the structure of their costs and prices. At the same time it must be recognized that even the system still has defects.

-Partially successful government interventions to control prices can destabilize markets and result in pernicious results. The price of wheat flour, for example, is established by the government based on estimates of the price of domestic wheat plus a transformation margin in the milling process. But well over half of the wheat consumed in the country continues to be imported, purchased at a price which fluctuates according to the season and the country of origin. It is inappropriate to seek to establish a fixed price for flour based on the cost of domestic wheat since a significant part of the wheat continues to be imported at a variable price.

-Price controls in Rwanda consist of a maximum margin above production costs beyond which producers cannot go in establishing their sales prices. The general tendency, however, is to treat this legal maximum as the norm and to incorporate it on a routine basis into the selling price. Economists are generally in agreement that it is a bad policy to establish prices based on production costs plus a fixed margin. This represents poor management on the part of the enterprise, which should take account of questions of demand conditions and of competition in establishing their market price. In fact, a number of

manufacturers and merchants sell at prices substantially below the maximum authorized by the law, a fact which causes them problems with the tax collectors since some taxes are levied on the assumption that the seller charges the maximum margin which the law permits if their accounting system is not fully developed. Such cost-plus-a-fixed-margin pricing is also bad policy towards consumers. It permits the seller to cover any increase in costs of inputs or of transformation through an increase in the sales price. In fact, such fixed margins yield higher absolute returns if they are applied to a base which is enlarged by higher production costs. Since it becomes standard practice that sales prices vary in proportion to production costs, entrepreneurs easily accept cost increases and make only limited efforts to control them, specially in situations where there is only limited competition.

-If the current system is to be maintained even in modified form, the structure of prices as outlined in the ministerial decree needs to be made more flexible to take account of differing cost components particular to individual industries, if these can be justified by the entrepreneur.

-In fact, the government does not have sufficient staff to enforce the current policy of price declarations. While the new law stipulates that each manufacturing enterprise must present its cost structure and proposed price before the sale of any product, in the 12 months since the passage of the law less than 5 firms have presented any such information. The officials concerned are currently approaching this through the establishment of cost structures and prices for selected manufactured products, but with the small staff available and the multitude of products to be examined, the approach seems unrealistic.

When all is said and done, the best way of decreasing the

pernicious effects of price manipulations would be to:

-inform and educate consumers by letting them know via the radio or by other means the prices of basic products in the major markets of the country;

-encourage free competition between different producers as well as between domestic products and imports.

Such a policy would certainly not completely eliminate all chicanery and manipulation of prices, but it has more chances of success than the current policy which, in spite of its good intentions, seems incapable of preventing the manipulation of prices by dishonest producers or merchants.

4.4.3. Government purchases.

As indicated above (section 3.2.3.), the public sector constitutes an important market for manufactured products. To develop this market, two changes are suggested:

-Decision-makers should be made aware of the capacity of national producers to supply their needs, following the example of the Banques Populaires who made a point of buying all the furnishings for their new headquarters from domestic suppliers.

-The Treasury must pay on time for its purchases. Some manufacturers have complained about the fact that in some cases they have had to wait for six months or more after the delivery of the product before receiving payment.

4.4.4. The particular problem of packaging.

It is important to draw special attention to the problem of packaging materials. Whether it is question of plastic or glass jars and bottles, of cardboard or wooden boxes, of paper, plastic or cloth bags or other plastic containers, many producers have

been seriously hindered by the non-availability, the high price and low quality of packaging materials. One can seek to encourage the establishment of domestic sources of supply in this area on condition that they are efficient, but it is important at all costs to avoid using policy instruments to establish and enforce local monopolies where one producer can control the market in spite of low quality, high prices, and delivery schedules which are unpredictable.

CHAPTER V

SUMMARY AND CONCLUSIONS

Previous chapters have examined three principal areas of economic policy: tax policy, policy in the area of protection, and credit policy. For each of these major areas, this concluding chapter presents

-a brief description of the characteristics of the existing policy approach;

-an outline of the major features of change suggested; and

-detailed recommendations concerning needed policy reform.

5.1. Tax policy

5.1.1. The main characteristics of existing policy

The Rwandan tax system can be characterized by:

-a multiplicity of taxes established in the search for tax revenues but without any coherence or coordination;

-inequality of treatment from a tax point of view among enterprises. This inequality is generally due not to explicit policy decisions but to the multiplicity of taxes many of which vary in ways which bear no relationship to taxable capacity. Beyond this, there is considerable variation in the extent to which enterprises actually pay taxes, either because of exemptions or because they escape the eyes of the tax collector.

-Tax effort, measured in terms of actual tax payments as a percentage of GDP, is low in Rwanda compared to other African countries with similar economic characteristics. This is the

case in spite of the fact that the theoretical tax burden would appear to be quite heavy (in terms of numbers of different taxes and their legal rates).

5.1.2. The major elements of needed tax reform

The principal elements of a desirable reform of the tax structure would include the following:

- simplify the tax structure; specify in more detail the contents of particular taxes, several of which continue to be poorly defined.

- Concentrate on the reform and improved implementation of existing taxes, particularly those which vary with taxable capacity.

- Reduce fiscal leakages in making more strict the criteria for granting tax exemptions and in strengthening the tax collection and verification offices.

5.1.3. Specific recommendations

5.1.3.1. ICHA (sales tax)

- Make the ICHA payable at the moment of sales rather than at the time of purchase or of production.

- Make the tax base be the sales price rather than the production cost.

- Avoid cascading effects by altering the tax in the direction of a tax on value added.

5.1.3.2. The patente

- Modify the tax to make it more proportional to the profitability of the activity and to eliminate its minimum tax

feature.

5.1.3.3. The system of tax collection

-Strengthen the accounting system in all its dimensions: specify in more detail the system of firm accounts, improve the training of accountants both in enterprises and among government officials.

-Accelerate the process of tax verification.

-Strengthen the department of tax collection and verification in terms of numbers, of levels of training, and of support facilities.

5.1.3.4. Tax exemptions

-Speed up the decision-making process.

-Deal with the problem of retroactivity.

-Make the levels of exemptions offered more selective and less generous. These exemptions should be limited not only in time but also in level. The new Investment Code law indeed provides for this since it specifies that exemption from particular taxes can be partial or total.

-Exempt for customs duties imports used in manufacturing exports.

-Revise the customs regulations to provide exemptions for intermediate products used in the production process.

5.2. Protection policy

5.2.1. Major characteristics of the existing system.

The principal characteristics of the existing system of protection for manufacturing enterprises are as follows:

-A wide dispersion in both the level of protection and the level of measured efficiency among manufacturing enterprises. Some are highly protected and highly inefficient; others receive only modest or even negative protection and operate quite efficiently.

-A central role for licenses as instruments of protection.

-An overvalued exchange rate, which

- o puts domestic import substitution enterprises based on local raw materials at a relative disadvantage;

- o stimulates domestic import substitution enterprises based on imported inputs; and

- o disadvantages actual and potential export activities.

-On the whole, the system of protection, whether through tariffs or licenses, favors the activities which are least appropriate for the development of the country (those based on imported inputs) and gives less stimulus to those activities aimed at the transformation of local raw materials.

-The continuing growth of import substitution activities based on imported inputs has a direct impact on the structure of imports, reducing the flexibility of these imports as well as the level of tariff receipts.

5.2.2. The major elements of a reform in the protective structure.

The principal elements of a change in the system of protection of the industrial sector include the following:

-Establish better procedures for determining the types of activities to promote through protection, the ways of promoting them and the period of protection.

-Decrease the level of protection provided particularly for new activities which show only limited prospects for becoming efficient in a foreseeable time period. This is particularly important for enterprises based on imported inputs with very limited or even negative value added at world prices.

-Reorient the protective structure to rely more heavily on tariffs and less on licenses.

-Re-examine the exchange rate of the country to see whether a change in this rate would be desirable, taking account of all the diverse effects such a change would have on the economy.

5.2.3. Specific recommendations

-Establish precise criteria for deciding which sorts of activities will be protected, at what levels and for what periods:

o refuse protection to all new activities with negative value added at world prices;

o decrease the level of protection offered to activities based on imported inputs relative to that given to activities making use of domestic raw materials.

-Look for ways of facilitating changes in tariff rates, either by constitutional change or by procedures for annual ratification of a limited list of changes proposed by MINIFINECO. With such a change in procedures, decrease the importance of licenses as instrument of protection while putting more emphasis on tariffs.

-Establish procedures whereby the level of protection would decline regularly after a period of four years, so that by the tenth year it would be eliminated.

5.2.3.2. Analysis of the exchange rate.

-As a component of a larger study, examine in detail the impact of a devaluation on the situation of manufacturing firms, specially those based heavily on imported inputs, to determine to what extent and by what means one might ease the impact on them during a transitional period after a devaluation.

5.3. Credit policy

5.3.1. Major characteristics of the existing system.

The principle characteristics of the credit system as it relates to large private manufacturing firms are the following.

-Large private manufacturing enterprises rely on internal sources of finance (share capital, retained earnings) for 46% of their financing. 43% is made up of short-term credit, while only 11% is in medium or long-term loans.

-Most loans made by commercial banks are short term commercial loans or loans to individuals for purchases of cars, houses, etc.

-Most medium and longer term industrial credit comes from

the Development Bank.

-The principal characteristics of credit policy are:

- o ceilings on non-priority lending;

- o reduced rates of interest for priority activities;

and

- o decreased specialization of the financial institutions.

5.3.2. The principal focus of proposed changes in credit policy.

The principal goal in this area must be to increase the availability of credit, to improve its terms and to ease the administrative procedures for all enterprises, large as well as medium and small.

5.3.3. Specific recommendations.

-Resolve the problem of slow administrative procedures in processing loan requests.

-Offer advice to firms in the area of financial management, including information on alternative sources of financing.

-For the BRD, maintain a balance between their loans to large, medium and small enterprises, increasing their levels of lending in each category.

-Examine the possibilities of encouraging the commercial banks to seek more longer-term deposits, introducing variable interest rates on both loans and deposits of longer term.

5.4. Other suggested policy changes

5.4.1. Transport.

-Undertake a comparative study of transport costs among Rwandan and Kenyan transporters to determine why the costs are higher for Rwandans; based on the results of this study, introduce policies for decreasing these costs.

-Examine the possibility of exempting from taxes the transport of new export products.

5.4.2. Price controls

-Look for ways of strengthening the competition between domestic producers and merchants as well as between domestic products and imports as a way of reducing the pernicious effects of price manipulations.

-Train and inform consumers with regard to availability and prices of basic commodities in different markets of the country.

-Cease the promotion of a system of pricing based on costs plus a fixed margin, a system which diminishes the incentive of the producer to decrease or control his production costs.

5.4.3. Government purchases

-As much as possible, direct public sector purchases towards local supplies.

-Pay for government purchases without delay.

5.4.4. Packing materials

-Encourage local production of packing materials on condition that these are efficient, but taking account of problems of quality, price, and availability which can hinder the smooth development of user industries.

Annex I

Smaller Medium-sized enterprises in Rwanda

I.1. Enterprises with 20-29 permanent employees

	Sales (mil)	Permanent employment
1 Anegerwa	7.2	26
2 Atelier de confect sur mesure	5.2	20
3 Boulangerie de Kigali	40	26
4 Boulangerie du marche	31.1	26
5 Boulangerie du Marche Muhima	24	26
6 Emerwa	8.2	29
7 Konfigi	10.1	29
8 Somc.	11.1	20
9 Tomini	16.7	22

I.2. Enterprises with sales of 30-49.9 million FRw

1 Abattoire de Nyabugogo	47.6	13
2 Boucherie du Bugoyi	45.1	8
3 Boulangerie de Kigali	40	26
4 Boulangerie du marche	31.1	26

ANNEX II

Nominal and Effective Protection

To help in interpreting the concepts of nominal and effective rates of protection, the following example is presented for "patapata" (thongs).

Ex-factory sales price, local products:	FRw 163.00/pair
Costs of imported raw materials needed to produce one pair of thongs:	
Foreign exchange costs	60.25
Import duties on imported raw materials	23.15
Total	83.40
Value added from national production, at domestic prices:	163.00 - 83.40 = 79.60
Tax-free cost of a similar product imported	65.49

The country has the choice of buying imported thongs at 65.45 or of relying on domestic production, in which case one pair would cost 163.00. The decision to rely on domestic production raises the cost to the consumer by 97.51 (i.e. from 65.49 to 163.00), or by 148.89%. This is measured in the nominal rate of protection¹.

A part (in this case, 23.15) of this 97.51 increase in the price of a pair of thongs is attributable to taxes levied on imported raw materials. The remainder, 74.36 (97.51 - 23.15) measures the increase in value added in the country resulting from domestic

¹ Nominal rate of protection (NRP)
= (domestic ex-factory price/tax-free price of comparable import) - 1
= 163.00/65.49 - 1
= (163.00 - 65.49)/65.49
= 1.4889
= 148.89%

production instead of importing the finished product. This increase in value added is allocated in the form of returns to factors of production (payments to labor, interest, rent and profits), amortisation, and taxes.

This increase in value added in the country can also be measured in a different way, as the difference between total value added in the country and the value added at world prices as one moves from raw materials to finished products. In world prices, the cost of the raw materials needed to produce a pair of thongs--delivered to Rwanda--is 60.25. The cost of the finished thongs is 65.49. Value added in world prices is the difference between these two, or 5.24. Inside the country, on the other hand, those same raw materials--after payment of import duties--cost 83.40, while the price of the finished product is 163.00; domestic value added in producing a pair of thongs is 163.00 - 83.40 = 79.60. Thus value added in this transformation process goes from 5.24 to 79.60, an increase of 74.36 (the same figure found above).

It is this increase--expressed in percentage terms--which is measured in the effective rate of protection²

$$\begin{aligned} &^2 \text{ Effective rate of protection (ERP)} \\ &= (\text{value added within the country/value added at world} \\ &\quad \text{prices}) - 1 \\ &= (79.60/5.24) - 1 \\ &= (79.60 - 5.24)/5.24 \\ &= 14.1908 \\ &= 1419.08\% \end{aligned}$$

Annex III

Cost calculations for local and imported products, and DRC ratios

Product	Units	Entreprise	***** Domestic Production *****			
			Domestic resources	Foreign exchange	Taxes	Total
			1	2	3	4
Category 1						
Foam rubber mattresses	190x90x10, density 18	RW FOAM	521.741	853.300	90.5	1,465.500
Hoes	piece	RW CHILLINGTON	102.580	127.070	30.350	260.000
Wheat flour	kg	MIN DE BYUMBA	62.275	4.050	4.270	70.595
Leather shoes (Mocasins)	1 pair	SODEPARAL	1,632.060	1,022.940	227.000	2,882.000
Category 2						
Cigarettes	piece	TABARWANDA	0.293	0.667	1.140	2.100
Wire fencing	Roll of 64kg, 50x20x2m	SOFAT	2,312.000	3,893.000	317.000	6,522.000
Barbed wire	Roll of 37kg, 500m	SOFAT	1,393.000	2,236.000	192.000	3,821.000
School exercise books	32 pages	IM KI	6.728	9.920	3.344	20.000
Rubber sandals (patapata)	1 pair	ECOMIRWA	59.150	72.650	31.190	163.000
Plastic shoes	1 pair	ECOMIRWA	93.060	103.710	10.190	206.960
Tomato concentrate	can of 70 grams	SORWATOM	46.010	30.430	1.270	77.710
Poly-cotton cloth	1 yard	UTEXRWA	42.700	63.600	5.7	112.000
Category 3						
Beer	72 cl	BRALIRWA	13.110	8.160	44.730	66.010
Category 4						
Galvanized sheets	USG 39, 3 m	TOLIRWA	96.300	253.710	22.000	422.010
Toilet paper	RLX C3	SOCOBIKO	11.845	21.230	9.975	43.050

*****	Imported products		*****	Net domestic	Net foreign	DRC
Domestic	Foreign	Taxes	Total	resource	exchange	
resources	exchange			cost	savings	
				(1 - 5)	(6 - 2)	(9 / 10)
5	6	7	8	9	10	11
409.71	1,018.5	1,044.390	2,472.580	112.031	165.180	0.678
53.200	154.700	70.500	278.400	49.380	27.630	1.787
20.270	21.910	23.080	65.260	42.005	17.860	2.352
545.100	1,161.900	1,030.200	2,737.200	1,086.960	138.960	7.822
0.260	0.540	1.950	2.750	0.033	(0.127)	(0.260)
1,052.400	1,668.300	2,067.900	4,788.600	1,259.600	(2,224.700)	(0.566)
1,173.800	1,944.000	2,383.000	5,500.800	219.200	(292.000)	(0.751)
1.350	3.700	1.230	6.280	5.378	(6.220)	(0.865)
29.300	41.450	39.550	110.300	29.850	(31.200)	(0.957)
43.075	64.800	73.225	181.100	49.985	(38.910)	(1.285)
5.400	7.900	6.000	19.300	40.610	(22.530)	(1.802)
26.80	59.9	40.660	127.400	15.900	(3.700)	(4.297)
113.300	198.300	615.000	926.600	(100.190)	190.140	(0.527)
104.800	247.300	119.300	471.400	(8.500)	(56.410)	0.151
12.860	20.600	9.030	42.490	(1.015)	(0.630)	1.611

Annex IV

Nominal and effective rates of protection

Product	Units	Entreprise	Ex-factory price	Cost of imported raw materials, tax included	V. A. in domestic prices
			1	2	(1 - 2) 3
Category 1					
Tomato concentrate	70 gram can	SORWATOM	25.00	12.60	12.40
Exercise books	32 pages	IM KI	20.00	8.26	11.74
Wire fencing	Roll of 64 kg, 50 x 20	SOFAT	6,521.60	3,853.44	2,668.16
Category 2					
Rubber sandals (patapata)	1 pair	ECOMIRWA	163.00	83.40	79.60
Plastic shoes	1 pair	ECOMIRWA	207.00	86.06	120.94
Cigarettes	piece	TABARWANDA	1.10	0.68	0.42
Leather shoes (mocassins)	1 pair	SOEPARAL	2,882.00	872.94	2,009.06
Galvanized sheets	USG 39, 3 m	TULIRWA	422.00	292.18	129.82
Barbed wire	Roll of 37 kg, 500 m	SOFAT	3,821.00	2,227.77	1,593.23
Poly-cotton cloth	1 yard	UTEXRWA	112.000	53.200	58.80
Wheat flour	kg	MIN DE BYUMBA	70.60	0.00	70.60
Hoes	piece	RW CHILLINGTON	260.00	83.45	176.55
Foam rubber mattresses	190x90x10, densite 18	RW FOAM	1,465.500	805.300	660.200
Toilet paper	RLX C3	SOCOBICO	41.00	24.78	16.23
Category 3					
Beer	72 cl	BRALIRWA	22.00	6.36	15.64

Import price (incl. freight and margins, but exclusive of taxes)	Cost of imported raw materials, exclusive of tax	V. A. at world prices	Nominal rate of protection	Effective rate of protection
4	5	(4 - 5) 6	(1 / 4) - 1 7	(3 / 6) - 1 8
12.31	12.60	(0.29)	103.17	(4,303.39)
4.92	5.98	(1.06)	306.34	(1,209.26)
2,516.43	3,853.44	(1,337.01)	159.16	(299.56)
65.49	60.25	5.24	148.89	1,419.08
98.07	86.76	11.31	111.07	969.32
0.67	0.55	0.12	64.50	243.47
1,571.13	872.94	698.19	83.43	187.75
337.76	292.18	45.57	24.94	184.85
2,928.82	2,227.77	701.05	30.46	127.26
81.500	53.200	28.30	37.42	107.77
40.16	0.00	40.16	75.79	75.79
199.41	71.39	128.02	30.38	37.91
1,289.930	803.000	486.93	13.61	35.58
32.37	16.80	15.57	26.66	4.21
256.91	6.36	250.55	(91.44)	(93.76)

ANNEX V

NET DRC

(after correction for a hypothesized overvaluation of the exchange rate by 30%)

1. The most highly protected products:	
tomato concentrate	-1,38
plastic shoes	-0,98
rubber thongs (patapata)	-0,74
school exercise books	-0,66
wire fencing	-0,43
2. Highly protected:	
barbed wire	-0,58
galvanized sheets	0,12*
leather shoes	6.02
poplin poly-coton cloth	-3.31
cigarettes	-0,20
3. Relatively little protected	
wheat flour	1.81
hoes	1,38
toilet paper	1,24*
4. Highly efficient:	
foam rubber mattresses	0,52
beer	-0,41
5. Export products:	
tea: average price, 1987	0,76
coffee: average price 1987	0.91
actual price, June 1988	0,75

* Negative net savings in foreign exchange and negative net costs in domestic

WORKING PAPERS OF THE PRIME PROJECT
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1. The Textile Garment Subsector in Rwanda, by Steve Haggblade, September, 1986 (F, E).
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F = Available in French

E = Available in English

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