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Tunisia

Country Economic Memorandum: Midterm Review of the Sixth Development Plan (1982–86)

(In Two Volumes) Volume II: Pricing Policy Issues in Tunisia

October 1985

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Europe, Middle East and North Africa

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CURRENCY EQUIVALENTS

SDR 1.00 = dinars (TD) .8486 (as of March 1985)

Official exchange Rate: Dinar (TD) Per US Dollar

| <u>Period</u> | <u>End of Period</u> | <u>Period Average</u> |
|---------------|----------------------|-----------------------|
| 1973 | 0.4451 | 0.4200 |
| 1974 | 0.4065 | 0.4365 |
| 1975 | 0.4253 | 0.4023 |
| 1976 | 0.4309 | 0.4288 |
| 1977 | 0.4121 | 0.4290 |
| 1978 | 0.4034 | 0.4162 |
| 1979 | 0.3959 | 0.4065 |
| 1980 | 0.4187 | 0.4050 |
| 1981 | 0.5157 | 0.4938 |
| 1982 | 0.6158 | 0.5907 |
| 1983 | 0.7302 | 0.6785 |
| 1984 | 0.8666 | 0.7768 |
| 1985 | 0.8561 (March) | 0.9107 (March) |

Source: IMF, International Financial Statistics, May 1985

FISCAL YEAR

January 1 to December 31

ABBREVIATIONS

| | |
|--------|--|
| API | Agence de Promotion des Investissements |
| CNP | Comité National des Prix |
| DGC | Direction Générale du Commerce |
| DPC | Direction des Prix et du Contrôle Economique |
| DRC | Domestic resource cost |
| EMIs | Electrical and mechanical industries |
| IEQ | Institut d'Economie Quantitative ali bach Mamba |
| MEN | Ministère de l'Economie Nationale |
| OC | Office des Céréales |
| ONAS | Office National de l'Assainissement |
| SMIG | Salaire minimum interprofessionnel garanti |
| SONEDE | Société Nationale d'Exploitation des Eaux |
| STEG | Société Tunisienne d'Electricité et du Gas |
| TD | Tunisian Dinar |
| UTICA | Union Tunisienne des Industriels, Commerçants et Artisans. |

Mid Term Plan Review: Volume II

Pricing Policy Issues in Tunisia

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FOREWORD

This report was prepared by members of an economic mission that visited Tunisia in April 1984. The mission was composed of:

| | |
|------------------------------|---------------------------------|
| René Vaurs | Mission Chief |
| Hinh T. Dinh | Deputy Chief, General Economist |
| Hans Reichelt | Investment Program |
| M'hamed Cherif | Modelling |
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| Marto Ballesteros | Agricultural Prices |
| Margaret O'Donnell | Research Assistant |

The report consists of two volumes. The first analyzes recent economic developments and assesses the achievements of the Five-Year Plan (1981-1986) macroeconomic targets, as well as the implementation of structural policy reforms that the Plan recommended. The second volume focuses exclusively on pricing policy issues, the main recommendations on which were incorporated in the first volume.

The preliminary version of the report was completed in September 1984 and was sent to the Government at its request for consideration in the preparation of the Budget 1985. Since then, data have been revised extensively, but the conclusions of the report stand, and the recent data will be reflected in forthcoming economic reports.

This volume was prepared by Oli Havrylyshyn, with a contribution from Marto Ballesteros. The mission appreciates the full cooperation provided by the Tunisian Administration for its preparation, in particular by the General Directorates of Planning and Commerce and would like to acknowledge the valuable assistance given by the staff of the Directorate of Prices and Control.

SUMMARY AND CONCLUSIONS

i. To achieve the VIth Plan objective pricing policy was one of the key economic policies identified by the 1981 Plan Review Report. A dialog on pricing policy issues between the World Bank and the Tunisian Government has developed through the preparation of projects jointly financed; it has concentrated on public utility tariffs (electricity and power) and agricultural products. A preliminary review of the pricing system was carried out in 1981 (see Tunisia, Country Economic Memorandum, No 3399-TUN dated September 1981). The second volume of this report includes a study of the main methodological aspects of the price system and its impact on the economy. It aims at providing a coherent analytical framework to help future detailed reviews of the pricing system and prepare subsequent reforms.

A) Main Features of the Price Regimes

ii. In Tunisia, the price system can be characterized as a largely administered system, with complete free-market pricing limited to only about a third of consumption expenditures and considerably less for intermediate and capital goods. During the VIth Plan there has been some limited liberalization of the system. The principal intended benefits of price regulation have been social equity improvement using low prices for key consumer staples; promotion of industrial expansion while controlling any monopolistic tendencies to excessive profits; and more recently restraint of inflation. On the other side, negative effects can be created and have to be identified: resource allocation distortions; inducement to inefficient production at the micro-level; and in cases of below-cost prices the need to mobilize large budgetary subsidy payments, explicit or implicit, which create a heavy burden on the central Government budget. The functioning of an administered price system, its advantages and disadvantages, widely vary among products.

iii. Key staple goods (bread, semolina, meat, sugar, milk, oil) as well as animalfeed, fertilizers and some minor items, are subject to fixed pricing, and explicit subsidies are paid out at several intermediate points (between producers (farmers) and consumers). In recent years producer prices - especially for cereals - have been allowed to approach world prices. But while this reduces the resource allocation distortions of the policy, it has required huge increase in the subsidy payments of the Stabilization Fund (CGC), which reached TD 250 million or 4 percent of GDP in 1984. Consumers do benefit from these subsidies, but two caveats are in order. First, the subsidies benefit both low and high income households, though the net effect on income distribution is a slight improvement. Second, the subsidies may be overly generous to intermediary processing (milling, baking, transport & storage). Attempts to use a system of direct-targeting to given social groups as an alternative to across-the-board prices subsidies have been almost non-existent, though the possibility has been considered, especially as part of the planned 1983-84 price increases.

iv. Prices or tariffs in the major social services-health and education-are essentially zero, though very modest fees are applied differentiated by income to some health services. These costs are in budgetary terms quite large (TD400 to 500 million at present equivalent to 7 to 8 percent of GDP); with the need for reducing budgetary outlays (see Volume I), it is urgent to consider the principles and procedures of generalized systems of user fees in all social sectors.

v. Public utility prices or tariffs (electricity, water, sewage, transport) are decided by the Government based on cost data proposed by the operating agencies but are adjusted by political decisions to reflect perceived social benefits such as economic externality or assistance to targeted groups. In spite of recent increases most utility tariffs are below economic cost. In the case of railroad tariffs, they are even below financial operating costs, thus requiring large explicit subsidies. If capital subsidies are included, budgetary outlays to utilities are over TD 100 million at present. The principles behind price calculations (marginal or average cost; short-run or long-run) need to be clarified, with justification for below cost pricing.

vi. Most manufactured production is under an administered cost-plus price regime which covers a large proportion and wide variety of items, entailing an annual review of over 5000 files by the Directorate of Prices and Control (DPC). In 1982 changes were introduced to ease this burden by shifting most products from homologation (a regime which requires DPC to calculate prices given enterprise cost data), to auto-homologation (a regime which gives enterprises the responsibility for price calculation). But in both regimes, the detailed cost files are still submitted to DPC for control, and thus, the changes have not reduced the purely logistic tasks.

vii. The nexus of three elements—import protection, investment licensing, and price regulation — is so close that the price system must be considered in direct coordination with the other two regulatory policies. Small market size and consequent oligopolistic tendencies limiting competition are a key concern motivating price regulation in Tunisia. The objective of promoting economic activity means that domestic industry has been provided some protection as infant-industry against imports, and that domestic investments in manufacturing are limited by existing practices. The actual practice of price regulation does not always exhibit the necessary coordination, is generally ad-hoc, and is not sufficiently embodied in an overall sector strategy. In actual practice, it is difficult to tell how well price regulation has achieved its objectives as data are sketchy, and the effects, complex.

viii. There is little doubt that many negative effects are created by the actual cost-plus price regime. These include in particular:

1. Tendency to collusive action among producers, resulting in excessive profits.
2. Tendency to distort prices from opportunity cost, hence resulting in allocation inefficiency.
3. Tendency to excessive capital intensive investments and under-utilization of capacity.
4. Tendency to micro-inefficiency ("X-inefficiency").
5. Tendency to inflationary cost increase.
6. Disincentive to productivity improvement.
7. Disincentive to quality improvement.

Just how important each of these is, or what is the value of the economic loss through distortion, misallocation, inefficiency at factory level etc ..., cannot be easily determined for the impacts are of a "general equilibrium" nature and difficult to trace. Two important consequences should be noted: first, any formula or rule devised to counter some of the above effects, invariably seems to cause other negative effects or contains a loophole, or finally leads to increasing complexity of price administration; secondly, the price fixing procedures based on a systematic consultation of producers may create favorable conditions for collusion, with the paradoxical situation that these price regimes require large competition to be efficient.

ix. The combination of trade policies, competition policies and price regulation using the average (rather than marginal) cost formulas can only result in resource misallocation. In the mechanical and electrical sector, a study using effective protection calculations would indicate a resource allocation bias (mostly an anti-export bias) of about 25 percent loss in value added. Moreover, considerable excess capacity is identified, and yet requests for new investment licensing continue. Because of shortages domestic products, even of inferior quality, are sometimes sold for higher prices than imports. Finally Tunisian entrepreneurs do not show sufficient aggressiveness, in particular in foreign markets. But this is not because of any interior lack of enterprises but rather because the regulation policy broadly defined above (para. vii) has built-in tendencies to induce low levels of production with poor quality, excess costs, but with assured profits at a level high enough to satisfy industrialists and thus bias them towards the easier domestic market.

x. One stated intention of the change to the auto-homologation system was to make producers more "responsible" for their actions. It is not clear that this change alone has had the desired effect for the formula is still cost-plus, and the administrative control is just as complex. In fact, the auto-homologation formula is in at least one respect inferior to the homologation one, for profits are calculated as a percent of costs rather than of invested capital inciting cost inflation even more strongly. It is also not clear how the capacity utilization rate intervenes in cost estimates.

xi. An important issue in pricing policy has been whether the auto-homologation regime is more inflationary than homologation. Inflation actually declined from about 14 percent in 1982 to 7 percent in 1983 but this decline was mainly coincidental with the shift to auto-homologation. The success of curtailing inflation was due to a tough policy of "voluntary" price controls and even rollbacks, mechanically imposed through the price regime by tougher review of price increase requests, more frequent questioning of costs, and in the case of public enterprises, informal delays in ratification. But inherently the cost-plus formulas autogenerate inflationary tendencies, by inducing excessive direct costs and passing them on to other costs as intermediate inputs are used in other goods and as higher consumption prices trigger cost of living adjustments for wages.

B. Recommendations

xii. On general aspects, the report makes two main recommendations. First, Government should actively pursue the objective of gradual

liberalization outlined in the VIth Plan, going beyond the steps already implemented. But in so doing it will be important to assure better coordination of the three inter-related policies: import protection and export incentives; domestic investment licensing; and price regulation of manufactured goods. It will also be important to consider whether and how much to compensate, at least partially, those who are hurt by any policy adjustment, so as to make it socially acceptable and economically viable. Secondly, the price system in the medium term should define clearly the various categories of goods and services to fall under the different price regimes. During the adjustment period the objective should be to have four levels of administrative price fixing and control:

1. Items for which domestic industry is competitive enough that neither price regulation nor import protection is necessary, and gradual liberalization should be envisaged.
2. Items for which domestic industry clearly is highly non-competitive, and prices and imports should be liberalized.
3. Items for which domestic production demonstrates some infant-industry potential and temporary support is retained, and non-liberal entry policies to restrain monopolistic effects.
4. Items whose prices will remain directly fixed. A limited number of key staples with significant equity effects and public goods with demonstrable social or economic spill-over effects.

An appropriate institution to prepare such long and medium-term policy objectives could be the National Committee on Prices, reconvened in the context of the VIIth Plan preparation. The type of goods where some amount of price regulation may be retained for some time are broadly identical to the ones officially defined and actually used. However, what is recommended is to shorten the list of items to be actively controlled in the medium term, while moving progressively to full liberalization.

xiii. Key staple goods. Liberalization of the price system related to consumer staples goods should be aimed at approaching opportunity cost pricing, achieving equity improvement, reducing the budgetary costs of CGC subsidies, and minimizing the adjustment burden to those who presently benefit from these policies. Because of the need for making budgetary expenditures, etc., freezing of the subsidy bill for key staple goods in 1985 and beyond at its 1984 level is recommended. The following policy measures are recommended in this regard:

1. a policy decision considerably shortening the list of key staples comprising bread, durum flour, semolina, sugar and oil.
2. gradual but rapid removal of price control for most other items with some limited substitution of direct targeting for secondary staples such as school paper, dairy products, and perhaps agricultural inputs.

For key staples, still under direct price control:

3. to elimination any possible excesses in per unit subsidies, such as in baking and perhaps milling by expediting the present DPC's intention to review the sector and revise the subsidy formula.
4. annual increases in consumer prices for these products, at rates above inflation.
5. to develop direct targeting mechanisms for these staples with the intention of gradually phasing out all price subsidization in the long run.

xiv. Social Services. Though the major social services (health and education) are characterized by large socio-economic externalities which authorities use to justify below-cost user fees, this cannot justify a zero-fee policy. Because the magnitude of expenditures is so large - about twice the level of CGC's interventions - even small percentages in cost recovery can be financially important. The incidence of these costs is particularly regressive for education, even more than for health. It is therefore recommended (a) that in the health sector the user-fee systems be further improved by refining the present system of user cards (Cartes d'indigent) to stratify recipients by income groups, and (b) that the possibility of partial cost recovery in higher education be studied, with direct targeting instruments used to address equity objectives.

xv. Public utilities. Greater justification (and potential) exists for increasing cost-recovery, though may not mean free-market pricing or, in very specific cases, full economic cost recovery. In these cases, the prices may need to reflect the fact that public utilities tend to be natural monopolies. This Report recommends the four following options:

1. consider the gathering of a working group responsible for establishing guidelines to be followed by all public utilities in tariff fixing.
2. require that for all tariff proposals more explicit attention be given to analysis of social and economic spill-over, before decisions are made in exceptional cases to set tariffs at levels different from the technical cost calculations.
3. review by the Administration of the general policy of financing public utilities with the general objective of making the financing of new capacity more explicit (rather than covered by current tariffs). The long-run objective should be to move gradually from implicit financing to explicit capacity subsidies, and from government loans to floatation of bond issues by the utilities themselves.

xvi. Manufactured Goods. Many specific improvements in price-regulation formulas and mechanisms have been considered in Tunisia, and some have been implemented in the period 1982-84; yet others can be recommended. First, the policy medium term objective should continue to be

liberalization of prices and imports under administrative coverage. It is therefore necessary to identify the products for which domestic competition is sufficient to avoid price regulation and protection or for which unnecessary domestic production is far too inefficient (level 2 and 3 of para. xii). It is therefore recommended that:

1. a review of the policies of competition, protection and pricing be reviewed in a comprehensive framework to isolate the few industrial sectors for which some support and then price regulation would be applied (infant industries). Since this is closely related to trade policy incentives, such a review should use sectoral studies on effective protection. Policy tools (subsidies, tariffs, tax incentives) to be used for support will have to be defined by an Industrial Policy Study.
2. a study to assist the above review, the degree of competitiveness in each industry, be assessed systematizing information on number of firms, concentration ratios and market structure in general.
3. a procedure of liberalization be rapidly implemented for products for which domestic industry is reasonably large and its efficiency close to world prices.

xvii. The above recommendations have a medium and long-term perspective. But because liberalization cannot be immediate for evident reasons one should also consider some short-run amelioration of the existing price regimes which should be coupled with immediate limitation of the existing extent and thus, social costs attached. These recommendations are that:

1. annual activity reports on price regulation be produced (if possible going back a few years) providing systematically such information as product coverage of the different price regimes; characteristics of price request by branch plus some average indicators of production.
2. the process of reviewing files be made more explicit, as not all files can (or need) be reviewed in depth. Either the process should involve a scientifically random sample selection, or more systematic criteria should be specified to identify files for review.
3. the profit margin basis of the auto-homologation formula be reconsidered to avoid the inducement to inflate production costs, and perhaps return to the homologation margin formula without returning to the homologation procedure. Another improvement will be to explicit the corrective factor for capacity utilization to be used in the price formula.
4. efficiency improvements for specific industries be introduced by greater use of import liberalization, even if it be temporary. Also it would be more effective if such a review could also be used to identify industries that are so inefficient that

protection ought to be removed immediately (level 3 in para. xiii) that protection will be eventually removed immediately or gradually if there is infant potential (level 4 in para. xiii).

These tasks will require a restructuration of DOC's resources, in particular a more efficient use of computer facilities to leave more time for tasks of verification and analysis.

xviii. In conclusion, these recommendations constitute a rather complex action program, but implementation of the first steps should start immediately to be fairly advanced when the main strategy components of the VIIth Plan are decided. These first steps could include:

- for the Directorate of Prices and Economic Control: to prepare detailed annual reports of its activities; to adjust the autohomologation price fixing formula; to choose the criteria to select firms to be controlled ex-post; and to rationalize its manpower capacities.
- for the Caisse Générale de Compensation (Stabilization Fund), to review its subsidy formula to intermediaries; to carry out a detailed analysis of the baking sector; to apply an annual price increase in cereal-based products, sugar and oil; and to prepare a plan to phase out the other items under fixed price regime, to be replaced by direct-targeting if justified.
- for the Government, to set up four working groups: the first one will define the categories of goods and services to fall under the different price regimes and the procedures to liberalize the entire system; the second one will prepare policy guidelines to coordinate import liberalization; the third one will organize the monitoring of public utilities and public entities tarification procedures and the criteria for allocating budgetary subsidies; and the fourth one will study the user fee and cost recovery principles for all social sectors.

CHAPTER I - INTRODUCTION

1.1 The mid-term review of the VIth Development Plan (1981-86) (see Volume I) confirmed the main conclusion of the 1983 Plan Review Report that it is unlikely that the current economic problems will be resolved by "extensive growth" based on macro-expansionary policies with increased investment stimulating economic growth. Instead, effective economic management will in the future mean much more emphasis on improving the efficiency of resource use, because the less favorable macro-economic environment projected for the eighties will require a focus on "intensive-growth" based on micro-efficiency improvements, structural adjustments and hence, supportive policies to facilitate optimal resource allocation and the greatest possible productivity of existing production resources.

1.2 The VIth Plan which initiated such a reorientation also underlined the need to review the pricing policy and to undertake several reforms aimed at reducing any distortions unintentionally generated by administered prices.^{1/} Such a policy reorientation is altogether appropriate because a coherent pricing policy is the key element in a long-term development strategy aimed at increasing growth through efficiency improvement. But the legacy of an easier financial environment and extensive reliance on administrative mechanisms to regulate prices have meant that the new policy orientation of "intensive" growth has only begun. Both the conceptual discussion and the actual steps of implementation of such a new approach have been limited and tentative up to 1984. Thus, the three broad lines of price policy changes proposed in the VIth Plan have only begun ^{2/}. These changes were: a) reduce price distortions for key agricultural goods and the burden of subsidy payments; b) rationalize industrial price regulation by changing from the system of homologation (price-fixed by the administration) to auto-homologation (price decided by enterprises, subject to ex-post administration control); and c) liberalize both domestic licensing and import restrictions to increase competitive forces.

1/ République Tunisienne, VIe Plan de Développement Economique et Social, 1982-1986, Tome 1, pages 418-423. This is considerably elaborated in a pre-plan document (Ministère du Plan et des Finances, Rapport de la Sous Commission des Prix, Sept. 1981) written by the working group in charge of reviewing price policy issues and preparing recommendations for the final document of the VIth Plan. This working group gathered representatives from the Administration and the private sector.

2/ As noted in the Rapport de la Sous-Commission, op cit, p.3
"L'intervention de l'Administration dans la fixation des prix, est substantielle. Cet état de choses fait jouer un rôle secondaire aux forces du marché dans la détermination du niveau des prix." The present report will use the term "price-regulation" rather than the usual term "price-control" in conformance with the Tunisian price authority's distinction. "Fixation des Prix" refers to the actual first step of determining the numerical level for a price, while "contrôle des prix" refers to all of the detailed investigation of correct costs, technical norms, sanctions, etc. Here price regulation will mean both processes.

1.3 The purpose of this volume is to contribute to this policy reorientation and to contribute to the task of identifying concrete policy measures which on the one hand address the most urgent problems and on the other hand are feasible to implement in the context of the Tunisian socio-economic conditions. Though earlier reports of the Tunisian Administration and the World Bank ^{3/} have addressed the problems of price administration, the evolving nature of the policy discussion and the changes begun in the VIth Plan necessitate a review of the current situation. The present volume undertakes such a review focussing both on the broad issue of the effect of the price system and on a narrower assessment of recent changes.

1.4 In the period of the VIth Plan to date, implementation of the three major lines of price policy changes has been limited, and a major reversal might have occurred in early 1984. While producer prices of cereals have increased, plans to increase consumer prices of cereal-based products were rescinded subsequent to social disturbances. Consequently, an increased gap between producer and consumer prices had to be met by a huge increase in budgetary subsidies. The administrative change from homologation to autohomologation (para. 4.7) has taken place without difficulty, but the effects of this change may not be as unequivocally positive as had been hoped. Further liberalization of price regulation has not occurred as the inflationary surge of 1982 led to even stronger ad hoc price controls. Finally, liberalization of import restrictions and domestic investment licensing has been set back by the pressures of slowed expansion and growing balance of payment constraints.

1.5 Thus, while the intention of reduced government involvement in prices remains, the immediate situation is characterized by three major concerns of the administration vis-a-vis price regulation, which stand in the way of continued liberalization. These are:

- (i) to increase competitive forces and improve the cost effectiveness of industry both for export and on domestic markets without causing employment cutbacks;
- (ii) to restrain the inflationary pressures that could result from reducing price controls in the non-competitive environment of domestic industry; and
- (iii) to allow greater competition through imports without exacerbating the balance of payments.

These legitimate concerns must be addressed in any discussion of pricing policy, for they define the crux of implementation problems. However, since prices are a pervasive element with multi-faceted effects throughout the

^{3/} The Administration reports are cited in para. 1.1. Principal Bank reports addressing these issues are: Price Controls and Subsidies in the Tunisian Economy, a working document dated September 1981 and prepared for the Country Economic Memorandum, September 1981, No. 3399-TU; and Social Aspects of Development, 2950-TU, dated June 16, 1980.

economy, an adequate set of policy answers to these three concerns cannot be found easily. It is necessary to assess more closely just what the positive and negative effects of the current price system are.

1.6 An assessment of these effects, in the spirit of social cost-benefit analysis, is at the heart of this volume. However, the issue is too large and complex to permit a comprehensive analysis. Rather, the approach here is to combine quantitative and qualitative analysis and cover only the principal and most critical elements of the price system. Chapter II describes the price system, while Chapters III to V respectively assess pricing of key consumption goods, of manufactured goods and services and of public utilities and social services.

1.7 Assessing the effects of the price system is sufficiently complex to require some amount of conceptual analysis. Recent Bank reports did address the issues of price distortions in a concrete way, as for agricultural prices or import protection wedges; they have not addressed the broader issue of an economy's entire pricing policy and price regulation system. The issues include, but go beyond, the measurement of price distortion to encompass the entire scope of pricing policy: what is the appropriate mix of free and administered prices? what reasons theoretical and practical may justify the Administration for administering some prices? how effective are the techniques and how valid are the cost-formulas used? what are the consequences of administering prices? How justifiable is the actual degree of interventions?

1.8 Though quantitative modelling cannot be envisaged in the framework of this volume, our assessment must, nevertheless, be founded on solid conceptual grounds. Figure I-1 gives a schematic review of the approach taken here. First, it is useful to subdivide goods and services covered into three types; key staples (including some non-food goods); industrial products; and public utilities and social services. For each of these broad categories this volume describes the system (objectives, methods, coverage and distortions), assesses the positive and negative effects, and remarks on the problem of administrative effectiveness. The assessment of effects, though in principle based on the same concepts as social cost-benefit analysis for projects, could not be done with the same degree of quantitative precision or even of qualitative certainty. The analysis here is social cost-benefit analysis more in the underlying principles than in the specifics. This volume recognizes first that development objectives are multi-faceted and go far beyond simple economic growth maximization to include various equity and social considerations. Secondly, the approach recognizes and attempts to identify the existence of some other factors which may justify: a) setting prices at levels not equal to market prices at least temporarily; b) need to regulate non-competitive industries; c) positive externalities of infrastructural services; and d) dynamic productivity effects in industries with potential comparative advantage. Finally, the approach recognizes the practical problem of implementation; the existing system may not be optimal, but any attempt to change it, well-justified though it may be in the long run, is

FIGURE I-1

SCHEMATIC APPROACH FOR AN ASSESSMENT OF PRICE SYSTEM

| | <u>TYPE OF GOOD OR SERVICE</u> | | |
|--|--------------------------------|-------------------|---|
| | <u>KEY</u> | <u>INDUSTRIAL</u> | <u>PUBLIC</u> |
| | <u>STAPLES</u> | <u>PRODUCTS</u> | <u>UTILITIES</u> <u>& SERVICES</u> |
| I. <u>DESCRIPTION OF PRICE SYSTEM</u> | | | |
| - Objectives of price control | | | |
| - Method of price fixing | | | |
| - Coverage of items | | | |
| - Price distortions | | | |
| Nominal protection | | | |
| Effective protection | | | |
| Domestic resource costs | | | |
| Deviation from marginal cost | | | |
| II. <u>POSITIVE EFFECTS</u> | | | |
| - Equity | | | |
| - Inflation control | | | |
| - Restraint of monopoly | | | |
| - Others | | | |
| III. <u>NEGATIVE EFFECTS</u> | | | |
| - Resource allocation distortions | | | |
| - Direct and indirect subsidies | | | |
| - Micro-efficiency disincentives | | | |
| IV. <u>ADMINISTRATIVE EFFECTIVENESS</u> | | | |
| - Ability to control prices | | | |
| - Alternative policies (targeting) | | | |

likely to impose costs upon some portion of the economy.^{4/} Any such changes should, therefore, be based on an evaluation of its "costs" and "benefits".

1.9 In effect, it is likely that the complex interplay of the various effects of price regulation result in a "second-best" rather than an optimal use of resources. The difficulty in making policy judgments stems from this second-best situation. It is in the case of pricing policies particularly difficult to say what is an "improvement" in price regulation. Though broadly, liberalization of prices is more efficient, for particular products many qualifications may arise. To help in assessing whether liberalization of specific prices is desirable, a fuller analysis of its effects is needed. The potential effects likely to be found in such analysis are enumerated in Figure I-2.5/

1.10 It is important to distinguish two degrees by which price regulation affects the economy; the degree by which administered prices' diverge from market prices will affect resource allocation; and the degree of administrative intervention in prices generally will affect micro-efficiency of production. It is possible to measure the amount of distortion, especially for tradable goods, simply by the divergence from world prices i.e. nominal protection. It is more difficult but still possible to measure resource allocation losses, using indicators such as effective protection and domestic resource costs, and perhaps even general equilibrium modeling techniques. It is, however, far more difficult to measure some of the positive effects of price regulation, such as positive externalities of infrastructure services or dynamic comparative advantage gains for infant industries. The degree of administrative intervention is only partly measurable by such indicators as percentage of products covered by administered prices, for in practice the force of regulation and control varies over time and across products. It is even more difficult--if not impossible--to evaluate the microefficiency effects that administered pricing may have such as excessive costs, poor quality, rent-seeking activities. Nevertheless, while measuring the effects of an administered price system is by nature an imprecise task, the qualitative characteristics of these effects are certainly traceable and need to be investigated as thoroughly as possible to inform discussion of reforms in the price system.

^{4/} This practical problem is of course closely related to the essence of central theoretical principle of traditional welfare economics, the Pareto principle: any change which benefits some elements of the economy but imposes costs elsewhere, is not automatically a good change. Such a situation requires compensation and social cost-benefit analysis as done for project work.

^{5/} This list of potential effects is based on well-known theoretical analysis, as well as practical assessments of price regulation and control experiences in many countries, including that done for Tunisia and described in the Rapport de la Sous-Commission des Prix (ref. para. 1.2).

FIGURE I-2

POTENTIAL EFFECTS OF PRICE REGULATION

| <u>Degree of Divergence of Administered Prices From Market Prices</u> (Resource Allocation Effects) | <u>Degree of Administrative Intervention in Price Determination</u> (Micro-Efficiency Effects and Others) |
|--|--|
| Positive Effects (Benefits) | <ul style="list-style-type: none">- redistribution of income (equity improvement)- externally benefits in utilities and infrastructure.- support for infant industries and benefits of dynamic comparative advantage.- control of non competitive industries, i.e. restraint on excess profits.- availability of administrative mechanism for ad hoc policy controls of inflation.- availability of administrative mechanism for ad hoc (and limited) actions to improve quality, productivity, to assist i research and development, marketing, etc. |
| Negative Effects (Costs) | <ul style="list-style-type: none">- long-run resource allocation losses (i.e. benefits of alternative uses of resources.- production disincentives- budgetary costs of direct price supports.- budgetary costs of indirect support via operating and equipment subsidies to enterprises.- micro-level inefficiency in production, poor quality as result of "assured return".- cost plus system creates incentive for excess in input, costs, and imports, and hence increase absolute price levels.- rent-seeking activities stimulated to extract private benefits from knowledge of administrative proces |

CHAPTER II: GENERAL DESCRIPTION OF THE PRICE SYSTEM

A. OVERVIEW OF PRICING POLICIES AND PROCEDURES

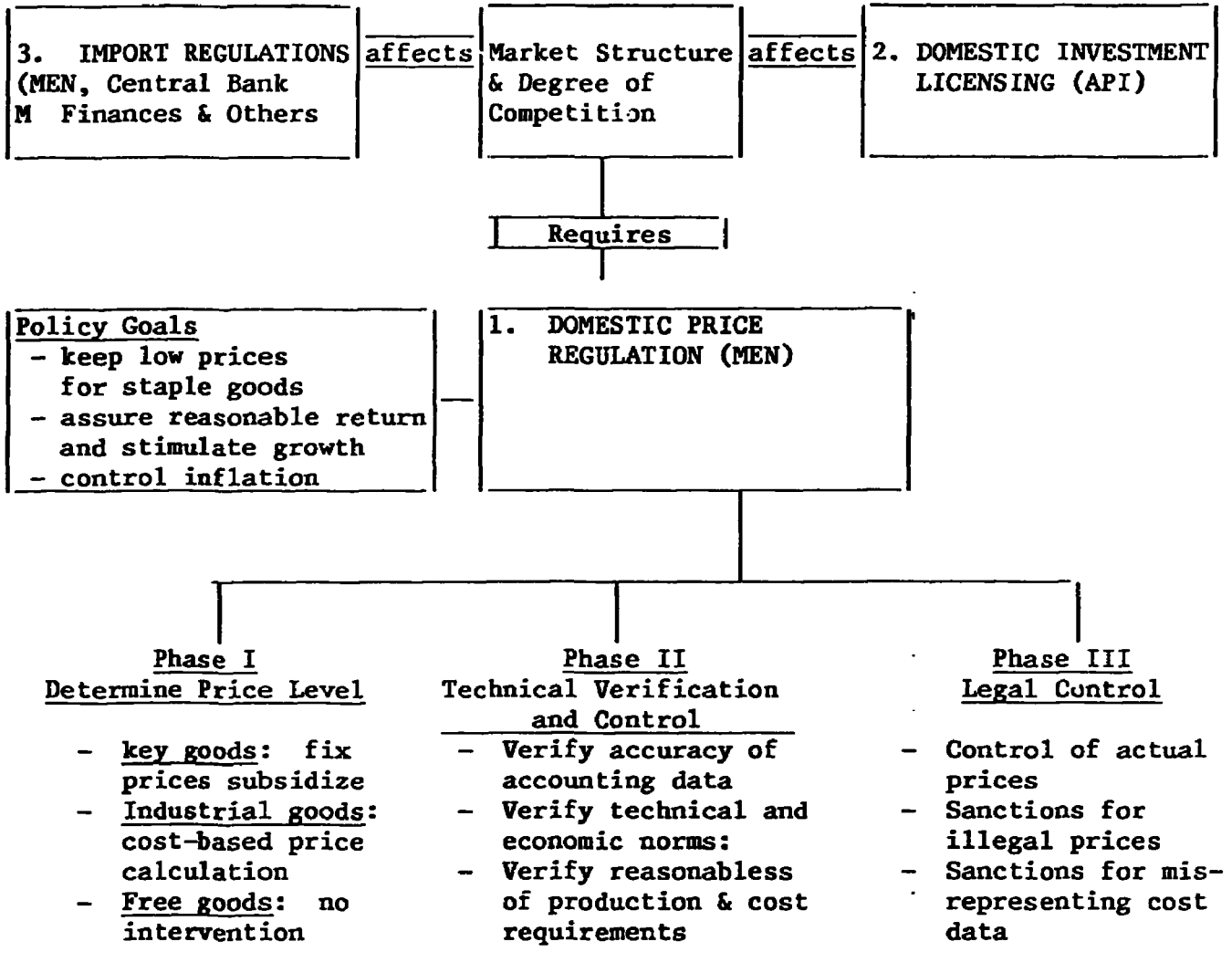
1. The Interplay of Import Control, Investment Licensing and Price Regulation

2.1 Prices of goods and services in the Tunisian economy are determined by a mixed system of market forces and administrative intervention. Though precise quantification of the relative importance of these two is not possible (both because clear-cut measurements of product coverage were unobtainable and because administrative intervention is a matter of degree), one can nevertheless characterize the Tunisian system as more administered than free. Complete freedom of market pricing covers only one third of the value of household consumption expenditures, and for industrial goods (intermediate and capital) only about twenty percent of products.

2.2 The extent of administrative intervention is probably even understated by such statistics as the system of price determination is inextricably related to domestic competition policy and to the external protection regime. That is, the "price system" should be more broadly defined as comprising three elements, depicted schematically in Figure II.1. First and most direct are the administrative procedures of domestic price determination and control centered in the Ministry of National Economy (MEN). Second are the actions of the Investment Promotion Agency ("Agence de Promotion des Investissements" or API) which accords to an enterprise the right to invest in a given branch of activity and acts as a "gate-keeper" for entry into production. Third is the entire set of external trade rules which directly or indirectly permit or restrict the quantity of imports and/or exports, and of course influence the domestic price by imposing protective duties and various taxes. The interplay of these three elements is elaborated later in this report (para. 4.53). In brief, the more policies on imports are restrictive, and the more licensing tend to limit new entrants into production, the less is the degree of competition in the domestic economy, and the greater the need for price regulation. This is not to say categorically that domestic entry-restriction policies and external protection policies are undesirable, though the mission does argue that they are at present excessive. Rather, the point is that limiting competition for whatever reason necessarily has the effect of creating non-competitive, monopolistic conditions, in which prices set freely would likely be well in excess of social marginal costs, and thus create the need for regulation. In other words, one set of interventions (restricting competition) seems to justify in principle another set of interventions (price regulation).

2.3 Though pricing policy cannot be independent of the other two policies which affect the degree of competition, the stated objectives and procedures of administered price regimes do not fully recognize this. In formal and informal statements, the Tunisian authorities indicated that other factors

FIGURE II.1: SCHEMATIC OVERVIEW OF THE PRICING POLICY



N.B. The Tunisian administration makes an important distinction in terminology between price fixing in Phase I (fixation des prix) and price controls in Phases II and III (Contrôle des Prix). We maintain this distinction in the Report and use the English terms as follows:

price-fixing or price determination = Phase I "fixation"
 price-control = Phases II and III "contrôle"
 price regulation = fixing plus control
 price system = the combined effects of import regulations, production licensing, and domestic price regulation.

We avoid the use of the more usual English term "price-control", as the Tunisian terminology means by "contrôle" the ex post verification of cost data and control of legal infractions on prices and/or quality. For the most part this report deals not with the juridical ex post issues, but with the manner in which allowable price levels are determined.

such as degree of competition and supply shortages of imported and exported products are taken into account, but this is done only in an ad hoc fashion. For example, a product or branch of activity is considered to be competitive if there are three or more producers. What this implies for price regulation activities is vaguely stated as a situation requiring lesser attention. Certainly, laws and decrees concerning prices make no reference to any of these other elements. While the VIth Plan 6/ recognizes the relation of the three policies, there is no indication that they are coordinated or how this should be done in a systematic ex ante fashion. This is sometimes done ex post in practice. When a "situation" of high cost or poor quality domestic production is identified, import restrictions may be temporarily lifted as a competitive weapon to incite more efficient local production. Administratively, this is facilitated by the fact that both sets of policy measures are the responsibility of the General Directorate of Commerce (DGC - Direction Generale du Commerce) in MEN. But with these usually limited and short duration exceptions, the general policy approach of the administration is that restricting imports should be retained as a tool of infant-industry protection and reducing those restrictions should not be used as a tool for competitive stimulus. Instead, internal administrative action through the price regulation system is preferred as a way to "sensitize" producers and induce them to greater social responsibility in lowering costs and improving quality.

2. Objectives of Pricing Policies

2.4 The most recent statement on pricing policy objectives 7/ selects two principal objectives and four "constraints", which may be thought of as secondary objectives. These principal objectives are to:

- a) maintain the purchasing power of consumers especially the less-favored;
- b) accord producers in key sectors reasonable returns to induce investment, production and employment.

Secondary objectives and/or constraints are to:

- c) promote exports;
- d) reduce inflationary pressures;
- e) maintain a balance of supply and demand on markets;
- f) minimize budgetary costs of subsidized prices.

6/ See Rapport de la Sous Commission des Prix, ref. para. 1.2.

7/ As Rapport de la Sous Commission des Prix, ref. para. 1.2.

2.5 The price system and administrative regulation policies on competition and foreign trade have been in place for many years and go back well into the protectorate period. The general philosophical view that the state must intervene to regulate and guide the economy in an appropriate direction seems the fundamental basis for such a highly administered structure. This view is a legacy of the concept of "etatism" to be found in many former French oversea territories; and it is an approach to public economic management with which a large proportion of Tunisian civil servants are most familiar. Since independence, the system has developed in an ad hoc piecemeal way, and it is only recently, mainly for the VIth Plan preparation that efforts have been made to go back to basic principles and consider the purposes of the system and to reassess the administration set-up.

2.6 The legal framework of the price system contains little guidance on the philosophical or economic principles that underlie the policy objectives and their relative importance, and it is left to the practice and such ex post administrative studies to define these points more clearly. On the one hand this allows for greater flexibility of reaction to changed circumstances; for example in 1983, the increased emphasis on the fourth objective (to reduce inflationary pressures) superceded, at least temporarily, the second one "reasonable returns". On the other hand, the disadvantage of this is that it creates an ad hoc administrative character in the price and competition control systems with the risk of arbitrariness and an emphasis on short-run versus long-run aspects. These last aspects have probably been exacerbated in recent years by the apparent lapse, at least formally, of the National Committee on Prices (CNP, Comité National des Prix), an institution legally established by the fundamental 1970 Law, No. 70-26. Regular and formal activity of such a Committee might at least serve to make more open and transparent, and hence more fully coordinated, the various aspects of pricing policies. It may also serve to put more emphasis from well-perceived short-run benefits of price regulation to the hidden long-run costs of a too rigid price system.

3. The Basic Structure of Price Regimes

2.7 The basic structure of price regimes was regularized in Law No.70-26 of May 19th, 1970, which established the power of the Ministry of National Economy (MEN) to oversee price regulation according to three broad regimes (Figure II.2.). All goods and services are either subject to fixed-prices determined by the administration, or to being administratively approved in a cost-based system; or they are in a third group of free prices to be determined by sellers in the market with no intervention. There are a number of sub-groups in the fixed-price and cost-based categories, and one in particular, so called "controlled freedom," is relatively more free than other administered regimes, but for reasons described later it is best categorized in the administered regime.

FIGURE II.2: PRINCIPAL PRODUCTS BY TYPE OF PRICE REGIME AND PRODUCT GROUP: 1984 1/

| Product Group | FIXED PRICES | | | COST-BASED ADMINISTERED PRICES | | | FREE PRICES |
|------------------------------|----------------------------------|--------------------|------------------------------|---|--------------------------|---------------------------------|---------------------------|
| | General Compensation Fund | Utility Tariffs | Other Products | Homologation | Auto-Homologation | Controlled Freedom | |
| <u>FOOD</u> | -Cereal Products | | -Tea | -Alcoholic beverages | -Chocolate | -Beverages in restaurant & bars | -Restaurant meals |
| | -Milk (powdered & reconstituted) | | -Coffee | -Salt | -Canned Goods | | -Beef & Lamb meat(?) |
| | -Cooking Oils | | -Pepper | -Margarine | -Tomato Concentrate | | -Fresh milk, butter, etc. |
| | -Sugar | | -Beef & chicken at retail | -Yeast | -Non-alcoholic Beverages | | -Fish |
| | -Beef? | | -Beverages in hotels | | -Biscuits | | -Chicken, eggs, etc. |
| | | | | | -Cheese | | -Fruits & vegetables |
| | | | | | | | -Rice, jams |
| <u>HOUSING & RELATED</u> | -Water | -Bottled gas (LPG) | -Household products of glass | -Maintenance repairs & furniture & appliances | | | -Rent |
| | -Electricity | -Kerosene | | -Housewares & utensils | | | -Charcoal |
| | | | | -Draperies upholstery, etc. | | | -Toiletry products |
| | | | | | | | -Wood & formica furniture |
| | | | | | | | -Woodwork & Carpentry |

1/ Price regime denomination in this report is as follows (compared to official denomination):

- fixed price corresponds to taxation in French.
- homologation is the French denomination, meaning certification
- controlled freedom corresponds to liberte controlée
- free prices corresponds to liberte totale

FIGURE II.2 (continued): PRINCIPAL PRODUCTS BY TYPE OF PRICE REGIME AND PRODUCT GROUP: 1984 1/

| Product Group | FIXED PRICES | | | COST-BASED ADMINISTERED PRICES | | | FREE PRICES |
|----------------------|---|-------------------------------------|--|--|--|--|-----------------------|
| | General Compensation Fund | Utility Tariffs | Other Products | Homologation | Auto-Homologation | Controlled Freedom | |
| <u>PERSONAL CARE</u> | | -Medical Care | -Medical Care -Pharmaceuticals | -Personal products -Cleansing products (soap, detergents) | -Insecticides -Disinfectants | -Personal Care services (barber, public baths) | -Perfumes & cosmetics |
| <u>TRANSPORT</u> | | -Post & telephone -All transport | -Gasoline -Tires & tubes -Bicycle cables | -Transport equipment and parts -Auto-rentals | -Auto Schools -Service stations | -Pleasure boats | |
| <u>CLOTHING</u> | | | | -Clothing & accessories -Footwear (some?) | -Dry cleaning -Leather tailoring, shoe repair | -Leather products -Footwear (some?) | |
| <u>MISC.</u> | -School paper -Animal feed & fertilizer -Inter-regional transport of cement, petroleum products | | -School books -Lime, cement, & bricks -Iron & Steel for construction | -Radio & T.V. sets -School fees private institutions -Newspapers & Magazines -Most industrial goods: intermediate products, capital goods | -Radios & TV repairs | -Misc. household -Toys, ornaments -Office supplies | |

SOURCE: Various documents provided by MEN and Ministry of Planning.

Since 1970 there have been several laws, decrees and ministerial orders elaborating the procedures, defining coverage of each regime, and establishing numerical values for margins of profit. In broad terms however, the system has not been subjected to any major reforms and has remained in place in much the same form (though not necessarily with the same objectives) as envisaged in 1970.

2.8 The principal administrative responsibilities for most of the pricing policy implementation are situated in MEN and in particular DGC. In many cases the Government is eventually involved as final arbiter, especially for items subject to fixed prices. For the major items covered by budgetary subsidies the procedures for price determination tends to start at the political rather than the administrative level. In contrast for public utilities the procedure usually starts in the producing or servicing agencies.^{8/} For administered cost-based pricing, the procedure starts with the enterprise which either submits cost data and requests DPC to determine new prices (homologation), or calculates new prices and submits justifying cost data to DPC (automatically in the case of autohomologation, upon request for controlled freedom). For the formulation and major changes of basic pricing policies such as the 1982 reallocation of many goods from the "homologation" to the "autohomologation" and "free" categories, other ministries besides MEN are involved (in particular Plan, Finances); Government and National Assembly decisions may be the final step in all fundamental policy shifts.

2.9 Within DGC, it is mainly DPC, a relatively small unit with only five professionals, that plays the central role of administering the price system. The number of total staff involved is, however, larger, as DPC relies on the support provided by experts in other units of DGC as well as approximately 150 investigating field agents throughout the country affiliated with various units in MEN and/or other Ministries. It can also call upon technical expertise either within MEN (in particular Direction Generale de l'Industrie, DGI) or within other parts of the Administration and the public sector in general. Nevertheless, DPC must be considered as the principal unit responsible for application of price regimes. The DPC computes the necessary payments of subsidies required by the fixed price regime for key consumption staples (though not the subsidies for utilities) and administers them through the General Stabilization Fund (CGC - Caisse Generale de Compensation). It also receives and verifies all the cost data and accounting information submitted by producers under the cost-based regime. It further determines in consultation within DGC what special cases or questionable cases need further technical investigation by other MEN directorates, and finally determines which price adjustments requested by enterprises are approved, which ones rejected and how much may be allowed instead. All in all, while DPC and DGC are by no means the sole or final locus of pricing decisions, they play a decidedly central role in the implementation of the price system.

^{8/} The Ministry of Agriculture, especially the Cereal Office is involved in the pricing of the large and important consumer staple items (cereals and bread, milk, sugar, olive oil, meat).

B. SPECIFIC PROCEDURES IN DOMESTIC PRICE REGULATION

1. Present Coverage and Definitions

2.10 The system of price regulation as practiced in Tunisia at present is not precisely defined in any one set of documents but is based on a combination of de jure elements (laws and decrees), administrative decisions by case (ministerial-level committee decisions), and technical level interpretations of legal procedures. This combination of elements will be considered in each of the different price regimes grouped into the three broad categories and six sub-categories shown in Fig. II.2. This lack of legal precision in the system is not necessarily a fault to be corrected. Rather it is a typical characteristic of any administered price system to be imprecise, and no amount of legal or administrative tightening is likely to reduce this imprecision. There are of course narrower and more specific administrative and procedural ameliorations that can be suggested, and these will be addressed in the appropriate context in other parts of this volume. It is first useful to clarify the three-phase nature of the procedure as depicted in Fig II.1.

2.11 The basic legal definitions of each price regime are stated in Law No. 70-26, Article 2 as follows:^{9/}

- FIXED-PRICE:** "The fixing of a single price, minimum or maximum, applicable throughout the territory of the republic or differentiated by region"^{10/}
- HOMOLOGATION:** "Prior fixing of prices on the basis of accounting information from enterprises."
- AUTO-HOMOLOGATION:** "Fixing of prices by the enterprise itself, applying to its production cost by product (prix de revient) a mark-up."
- CONTROLLED-FREEDOM:** "Fixing of prices by the enterprise itself subject to deposition of the prices at the Ministry of National Economy (MEN) prior to their being put into practice."

^{9/} The translation from the French is not an official one. The source is the Journal Officiel, Loi No.70-26, du 19 mai 1970. See Figure II.2 for details.

^{10/} Regional price differentiation is little practiced, partly because the country's small size and a reasonably adequate transport system makes economic price differentials minimal. No attempts are made to regulate North-South price difference for wheat and grains because the difficulties in controlling parallel markets are immense. The only regional regulations formally are transport cost cross-subsidization for petroleum and cement, although that is falling in abeyance.

FREE-PRICE: Determination of prices by the enterprise itself in complete freedom.

The same Law stated that subsequent decrees would elaborate the administrative and technical procedures, coverage of products, definitions of costs, and numerical norms such as applicable marks-ups. Thus, only such subsequent decrees as well as the actual practice clarify the distinction among regimes and permits the functional taxonomy used in Figure II.2. In practice, the fixed price regime is distinctly different from the other three administered regimes, in that price levels or (more usually) changes therein - are decided upon essentially at a political level, and cost factors are brought into play to determine the consequent amounts of necessary subsidy payments to be made. In the other three administered regimes, prices are calculated on the basis of cost information, and no explicit financial subsidy transfers are implied or effectuated. These three regimes are variations of what can best be described as a cost-plus or cost-based system of administered pricing. The controlled-freedom regime is, despite the label, closer to the cost-based system than to the free price regime, an important point in evaluating the degree of recent liberalization.

2.12. Key consumption goods under the fixed-price regime covered under subsidies from CGC include consumer staples and some industrial and agricultural inputs. These products are considered to be of such economic or socio-political importance that ceiling prices are determined more at a political than a technical level of the administration, so as to meet the basic objective of a price as low as possible. Once a price is determined, cost calculations are made by DPC to estimate the necessary per unit subsidy to support the price level. Then, an estimate is made of quantities involved. The resulting total subsidy may be considered unacceptably high given fiscal conditions, in which case the decision process goes through another iteration. Such an iteration was apparently what occurred in the period 1982-1983 and lay behind the attempt in late 1983 to increase prices of staples in order to reduce CGC's huge deficit.

2.13. Utility tariffs are also fixed but at least in the cases of electricity and water (see Chapter V for details), the sequence of administrative decision-making tends to be reversed. First, technical operating level calculation of cost is made and passed on for a political decision, which reflects both economic and social objectives. Any financial gap between the cost and price levels result in subsidy transfers, though not through CGC, but usually through central government budgets.

2.14. Other fixed-price goods are differentiated only by the fact that they are not automatically covered by subsidies; they are considered key products also but of secondary importance. It remains somewhat unclear what cost calculations lie behind pricing determination, to what extent it is systematic or whether it simply consists of ad hoc reactions to shortages or other problems. Sporadic shortages have occurred, but price regulation here may not be nearly as distortive as the lack of precision in the procedure suggests, for widespread and recurrent problems of shortages for the products in this category are not commonplace. Of course, pricing may be erroneous in the downward direction and prices that are too low result in operating losses for

the producers, which may or may not be covered by subsidies. Indeed, for many of these products, the tendency is to keep prices low (as these products are considered key goods) When they are produced by public enterprises this may eventually mean operating subsidies, or at least result in temporary deficits by these enterprises (as was the case for cement plants in recent years; this is a good example of the inappropriate emphasis on short-term advantages—low cement prices—versus long-term costs—public enterprise financial squeeze—, para. 2.6.

2.15. "Homologation" and "Auto-homologation" are differentiated in two respects. First the latter permits the enterprise to determine its price according to a cost-plus formula, and DPC only verifies the accuracy of submitted cost data. Secondly the formulas and mark-up procedures differ somewhat (para. 4.1), though they both remain cost-plus systems. For "Controlled Freedom" both the law and actual procedures are somewhat vague if not actually inconsistent. The basic Law (No 70-26) states only that a notification of proposed prices is to be deposited at MEN. But subsequent decrees ^{11/} require details on these prices, specify the cost-basis for price calculation for both controlled-freedom and homologation the same way, and further require that these be justified by appropriate documents. A slightly greater degree of liberality is clearly accorded to controlled freedom as only fifteen days is allowed the administration to reverse price changes, while for autohomologation and homologation the time period is 45 days. But the importance of this difference is mitigated by the power of the administration to review cases at any time after the elapsed period for all three regimes. In the final analysis however, since this regime has become almost empty, the lack of clarity and distinction from the other two administered regimes is almost a moot point. One important conclusion can be made: the freeing up of the price system in 1982 with the shifting of products out of the administered regimes to the free-price regime, was offset by the transfer of products from the slightly more liberal regime of "controlled freedom" to the slightly less liberal homologation regimes.

2. Evaluating Price Liberalization

2.16 The applicability of different regimes had not changed a great deal since the 1970 Law, until January 1982 when Decree No 82-134 and an Administrative Order from MEN re-grouped the products and re-established the mark-up margins for autohomologation. In Annex III, Table 1 lists items in the pre-1982 list which were transferred to other regimes; the major changes were as follows:

- (i) a shifting of several items from fixed-price to more "liberal" regimes: lamb meat (but not beef), fresh milk (but not reconstituted milk), dairy products, and rice were put in

^{11/} Decree No 70-543, Article 6 and Decree No. 70-544, Article 7; it is not clear whether they mean cost details, or just price details by product.

the free-price regime; radio and television sets, newspapers and magazines to autohomologation.

- (ii) a shifting of items from the administered to free-price regimes: fresh fruits and vegetables, fish, poultry and eggs, toys, perfumes, cosmetics, toiletries, leather goods, footwear, certain paper products, woodworks and carpentry.
- (iii) a shifting of most industrial goods from homologation to auto-homologation.
- (iv) a backward shifting of some items from the controlled-freedom to either homologation or auto-homologation regimes; this results in the fact (Table II.3) that controlled freedom now covers a small proportion of products.

2.17 These changes reflect the change in policy orientation, already noted in para. 2.5, bringing onto the stage an alternative view, namely that less government control is generally desirable, and in particular greater (though not complete) freedom for market determination of prices needs to be sought.^{12/} However, the actual moves towards liberalization in practice have not been nearly as large as those implied in the newly stated policy and philosophical views. The only major de jure administrative change that has occurred is the relatively modest liberalization encompassed in Decrees No 82-134 and 82-135 of January 27, 1982, which led respectively to an increase in the number of products completely free of any administrative regulations (at least as far as domestic pricing is concerned) and an almost full substitution of the auto-homologation system for that of homologation and controlled freedom. As Table II.3 shows, for consumer goods and services, this has indeed increased the percentage of consumption covered by the free price regime, but only from 25.2 percent in 1981 to 33.6 percent in 1983.^{13/}

2.18. The decline in coverage of the fixed-price and homologation systems is not as much of a real liberalization process as it might seem for two reasons. First, upon closer analysis, auto-homologation is not an obvious improvement upon homologation except possibly in the fact that it may ease the administrative task (para. 4.7). Secondly, there was an opposite movement as the controlled-freedom regime, which had covered nearly twenty percent of

^{12/} Rapport de la Sous Commission des Prix, ref. para. 1.2. To quote: "Cette intervention a faussé quelque peu la signification des prix en tant qu'indicateurs de la rareté et du coût réel des produits et en tant qu'instruments d'allocation optimale des ressources." (This intervention has distorted somewhat the meaning of prices as indicators of scarcity and opportunity cost of products, and as instruments of optimal resource allocation).

^{13/} The figures are merely indicative of the coverage, as only consumer goods are covered. Besides, there is a technical problem: how to quantify the fact that different regimes apply at the production and distribution stages for the same product.

**Table II.3: RELATIVE COVERAGE OF CONSUMPTION EXPENDITURES
BY TYPE OF PRICE REGIME 1981 AND 1983**

(in percentage)

| | 1981 | 1983 |
|--------------------------------|--------|--------|
| <u>Fixed Prices</u> | 48.2 | 34.5 |
| <u>Administrative Approval</u> | (26.6) | (31.9) |
| Homologation | 8.1 | 4.9 |
| Auto-homologation | 0.0 | 25.1 |
| Controlled Freedom | 18.5 | 1.9 |
| <u>Free Prices</u> | 25.2 | 33.6 |
| Consumption Expenditures | 100.0 | 100.0 |

Source: Ministère du Plan, Institut d'Economie Quantitative. Ali Bach Hamba, Analyse de l'Evolution des Prix à la Consommation en 1983, 27 Fev., 1984

consumption products was in most cases substituted by auto-homologation, a somewhat less free system. For intermediate products, although no precise data are available, DPC suggests that prices for about twenty percent of industrial products are free. This plus the 33 percent noted earlier for consumer goods leads to a rough but reasonable approximation that only about one quarter of all prices are free. To put this in perspective, one may note that in Yugoslavia, an explicitly more socialist-oriented economy (though not a centrally planned one), at the apogee of its control regime circa 1965, as much as 30 percent of products were liberalized, and since the reforms of 1965 in that country, this figure has increased to 50 percent and at times nearly 70 percent. Hungary, an even more explicitly socialist economy, has approximately one third of prices free. Clearly, despite the modest liberalization since 1982, prices in Tunisia remain highly controlled and administered.

2.19 Two other recent developments in price regulation deserve a brief mention here: the inflation controls of 1983 (para. 4.48), and the planned attempt to increase prices of staple goods (Annex I). The 1981 and 1982 inflation acceleration was turned around in 1983, coinciding with the change to auto-homologation, but the mission considers that in fact auto-homologation incites excessive production costs by its very nature as a cost plus pricing regime, and it is more likely that the

1983 reduction of inflation was due to a tough ad hoc policy which was administratively and politically super-imposed on the de jure pricing regulation. The other major development, an attempt to increase prices of some staples under the fixed-priced regime, did not succeed. This decision of minimizing budgetary costs of price supports by doubling the prices of cereal-based products was quickly rescinded after the social disturbances of January 1984. The objective now would be to increase prices gradually over a longer span of time, as started in July 1984.

2.20 Perhaps the most important implication of these recent developments has been that it might make even more difficult to put into practice the stated policy objective of liberalizing administrative controls. However, as discussed in Chapter III, it would be a mistake to generalize to the broader issues of price regulation in general the specific problems of changing the fixed prices of staples; the latter issue does not confront the issue of liberalizing the degree of regulation as such, but that of bringing actual prices closer to opportunity costs. The events of January 1984 may, paradoxically, lead to a useful shift of administrative energy away from the admittedly important but not-necessarily predominant issue of staple fixed prices, to the less visible but more deeply insidious distortions and problems of administered prices in other consumer and industrial products.

3. The Administrative Burden

2.21 The change to greater coverage of the auto-homologation regime was intended in part as a way of reducing the administrative burden. While it is not clear whether the administrative task has or has not been simplified by the changes since 1982, it is quite clear that the task is at present a very large one and the resources devoted to it not commensurate with that burden. While DPC does have the support of other units in the Ministry, its miniscule personnel of five professionals and four support staff are largely responsible for the management of all the information, calculation and verification of cost-data of prices and the logistical co-ordination of follow-up control by other personnel in MEN's units. Even if the responsibility extended only to the purely logistical management of the files, the task would be large for such a small unit; the number of products covered is several thousand. In 1983 the number of files received by DPC, requesting price adjustments under the cost-based regime alone was over 2,000, of which over 500 were not accepted "as is" and were reviewed in depth. But the responsibilities go beyond mere data management to include substantive and expert analysis of the reasonableness of technical, economic and accounting information, the determination of benchmark norms, and the responsibility of controlling loopholes or even fraudulent activity by enterprises.

2.22 Consequently, many administrative difficulties are in evidence; an obvious one identified by the mission being the lack of systematic filing of the current as well as historical information. This problem precludes easy access to specific items of price regulation information; like for example what the average price increase was in different years,

in different sectors; what was requested and what was granted, and so on. Another shortcoming is the lack of precise information on the activities of price regulation. Several problems deserve early attention and rectification. There does not appear to be a regular accounting of what the percentage coverage is for each regime, neither by number of products nor, which would be more difficult to get, by value of transaction.^{14/} There are estimates for consumption (Table II-3), but there are some uncertainties as to the treat a product for which production is subject to one regime, while for distribution it is subject to another (usually auto-homologation). Further, for the production of industrial goods (which include intermediate and capital goods) the only information available on coverage is a rough undocumented estimate that about 80 percent is under auto-homologation, compared to almost zero before 1982.

2.23 ' Administrative difficulties have been only marginally reduced by the startup of a computerized system, because it is a limited one and requiring time to be fully functional. The planned level of hardware allocation (two or three terminals, no micro-computers) is not enough to handle even for lesser range of price-regulation activities than the current one. Thus, resources ought to be devoted to the activities of price regulation in some combination of more staff and more computer facilities, so as to permit better data management of the huge information base now being processed. However, one should put such suggestion into a broader context. First, overall policy review should decide how much of the economy should be subject to price regulation; and second, an appropriate allocation of administrative resources should be made to bring about the most efficient application of the price - regulation procedures. However, even with a substantial reduction in coverage, it is likely that some increase in resources devoted to price-regulation administration would be required.

^{14/} Detailed listing provided to the mission (Table 1, Annex III) seems incomplete and apparently not updated for it was inconsistent with the text of the 1982 Decree. These inconsistencies in the information merit clarification. For example, for meat products, the 1982 Decree excludes meat at the production level from its former coverage under fixed-price regime, and includes it only at the distribution level along with poultry. It is shown under the free-price regime in official reports discussing product coverage. But it is not part of the list of free-price products in the 1982 Decree. In fact CGC's accounts show meat continued to benefit from a substantial subsidy (para. 3.15). A similar inconsistency occurs for footwear products, the 1982 decree listing these as free price, other documents and statements indicating they are under auto-homologation.

CHAPTER III -THE FIXED-PRICE REGIME: KEY CONSUMPTION GOODS

3.1 The large financial burden of budgetary subsidies through the Stabilization Fund (CGC) to maintain low prices for staples has been analyzed in depth by various official documents and earlier Bank reports. Both have reached the same basic policy conclusion which is still valid viz: policy measures must be taken to reduce considerably the size of CGC expenditures. However, while the basic problem has been recognized, a number of underlying issues remain to be considered, because they have been affected by the recent changes in the price system. The issues stated here as a set of working hypothesis, are the following ones:

- (i) As large as CGC subsidies are, they should be put in perspective relative to other implicit or explicit subsidies in the economy and should not be the sole focus for budgetary savings.
- (ii) For the main CGC intervention (cereal-based products) recent price changes at the product level have at least largely reduced the distortion effects on the production side, while equity effects, though not as strong as they might be, are nevertheless positive.
- (iii) The subsidies per unit may be too high as there probably exists "excess" payments, which can be reduced to generate budgetary savings.
- (iv) Among CGC minor interventions, one can identify those that are least justified by social and economic objectives and could be removed.
- (v) Additional policy efforts can be made to devise alternative measures for achieving equity objectives, at reduced costs, for example, via direct-targeting.
- (vi) It is necessary to review the fundamental policy of CGC and clarify the policy of a phased reduction of price subsidies for staples with the aim of replacing these with more direct equity instruments in the long run.

Each of these issues is addressed in turn below using the analysis of key staple prices presented in Annex I. First, a general remark should be made. The discussion here is in the spirit of the principles outlined in Chapter I, i.e. that both allocation efficiency and equity are legitimate policy objectives, and that in practice policy changes have to be guided by the notion of the "second-best." In this situation, "second-best" means two things. In the short-run existing price distortions cannot simply be eliminated to achieve the "first-best" or optimal solution as this will be harmful to those presently benefitting from the distortions. Implementation requires phasing out across-the-board subsidies. In the long run, it is justifiable to address equity objectives, but the tool should direct subsidies to avoid the distorting effects of price subsidies. It must, however, be recognized that price support entail a large opportunity cost in

the form of alternative uses of budgetary funds to promote targeted investments for example (para. 5.6). Therefore, subsidies are not the ideal long-term instruments to use for equity objectives. Fiscal and employment promotion policies appear to supply more adequate instruments (see Volume I for details).

1. Stabilization Fund's Subsidies in Perspective

3.2 Table III-1 shows CGC's a financial expenditures since 1970. Initially set up as a price stabilization fund rather than a subsidy fund to compensate for fixed prices, CGC's objectives began to change its nature in the mid-70's. First, its volume of operations increased dramatically though in an irregular pattern. Secondly, expenditures on price stabilization (support of export prices, petroleum refining, etc.) dwindled away,^{15/} while subsidies for fixed (ceiling) prices of staples, first introduced for cereals and oils in 1975, became the predominant items. Today, food subsidies account for 80 percent of the total, with another 8-10 percent for animal feedstocks.

3.3 Though CGC's operational deficit is much lower than expenditures, this is not a meaningful figure as CGC revenues are made of various earmarked taxes and are not "income" or "fees for use" arising from the inherent operations of CGC. Therefore, it is more appropriate to talk of total expenditures (although it could be argued that these taxes which provide CGC revenues would not exist otherwise). As Table III-1 shows, CGC appears large relative to total subsidy payments of the Central Budget if only current subsidies are considered (about half of the total), but far less so if capital and financial contributions are included (less than 30 percent).^{16/}

3.4 Policy decisions to reduce CGC's budgetary burden cannot be determined in isolation and should be weighed against other budgetary charges as to their costs and benefits. The greater visibility of CGC should be not cause for greater emphasis upon it as a source of fiscal savings, and in this context, some reasonable degree of subsidy for staple goods may be justified by equity objectives. Present CGC expenditures (TD 260 million) is, however, far too high and should be reduced in particular in view of the financial squeeze on the economy projected for the late eighties (See Volume I for details). This could be achieved by the following steps in the medium term: first selecting a small number of staples for price support; secondly, reducing the per unit subsidies by removing "excess" payments as well as by gradual price increases; third, eliminating gradually other staples; and fourth, introducing direct targeting alternatives where social and administrative circumstances permit

^{15/} Though in practice such support continues implicitly and explicitly in other budgetary items outside of CGC; for example, subsidies to energy consumption are compensated by taxes on oil exports.

^{16/} As shown in Volume I of this report public enterprises will receive about TD280 million in current subsidies in 1984, an increase of over 150 million since 1981 compared to the increase of about 100 million for CGC. Direct and indirect contributions to capital of public enterprises at least add an additional TD 175 million.

Table III-1 - APPROXIMATE EXPENDITURES OF STABILIZATION FUND (CGC), 1970-1984 (SELECTED YEARS)

(TD thousand: Rounded)

| (estimate) | <u>1970</u> | <u>1973</u> | <u>1975</u> | <u>1979</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> | <u>1984</u> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <u>Cereals</u> | 0 | 0 | 20,000 | 15,000 | 90,000 | 116,800 | 116,700 | 162,8000 |
| <u>Oils</u> | 0 | 0 | 15,300 | 17,500 | 12,200 | 10,200 | 15,200 | 27,500 |
| <u>Other Foods</u> | 30 | 600 | 2,600 | 2,300 | 32,200 | 22,200 | 30,900 | 40,200 |
| <u>Fertilizers</u> | 100 | 1,200 | 5,500 | 4,100 | 13,800 | 15,800 | 14,900 | 14,000 |
| <u>Miscellaneous</u> | 1,170 | 6,700 | 15,800 | 20,000 | 9,000 | 3,300 | 4,000 | 6,100 |
| Total Committed | 1,300 | 8,500 | 59,200 | 58,900 | 157,000 | 168,300 | 182,300 | 257,800 |
| Earmarked Receipts | n.a. | n.a. | 41,000 | 61,000 | 106,600 | 121,000 | 150,000 | 153,000 |
| Memorandum Item: | | | | | | | | |
| Estimated Budgetary "Subsidies" <u>1/</u> | | | | | | | | |
| <u>Low</u> (Current) | — | — | — | — | — | 332,000 | 327,000 | 548,000 |
| <u>High</u> (Total) | — | — | — | — | — | 625,000 | 645,000 | 913,000 |

1/ The values of estimated subsidies shown in Table III-1 are taken from Volume I (Annex on Public Finance). The "low" figure corresponds to the "current expenditures" less social security transfers; the high figure to Total contributions, including investment financing.

Sources: OGC Documents and mission estimates; for the years 1981 onwards, subsidies to sugar are given in different documents at widely varying levels and are shown together with miscellaneous. Therefore, the values shown are approximations.

this. In the remainder of this chapter, the current situation is discussed in view of these four possible future policy directions.

2. Cereal Prices: Efficiency and Equity Effects

3.5 Low prices for cereal products may have two inefficiency effects: relatively low prices to farmers are creating resource allocation distortion, and low prices for consumers can lead to waste. There is some evidence of waste by consumers, or use of bread for animal feed as sometimes happens with low cereal prices.^{17/} Paradoxically, because rural areas benefit little from the equity effect of low bread and semolina prices (as commercialization is limited), the wastage effect of using bread for animal feed is probably minimized.

3.6 Distortions between world and domestic prices have been reduced as domestic producer prices offered to cereal farmers by the monopoly buyer (Office des Cereales) have been significantly increased since 1980. For the 1984 campaign, announced prices for tender wheat (TD 139 per ton) were in fact slightly above world prices (TD 130 per ton) and those for durum wheat slightly below (TD 139 per ton vs. 151 per ton; see Table 3, Annex I). Furthermore, the direction of price movements has clearly been towards a closing of the "negative protection" gap between world and domestic prices (Table 4 in Annex I). An additional improvement in producer price policies occurred this past year; price announcements are now made before planting rather than before harvest. Some aspects of agricultural price policy could be analyzed further like the protection incentive given to tender against durum, the existence of inter-regional parallel markets; and the magnitude of agricultural terms of trade distortion, but it can be concluded that recent policy changes on cereal producer prices have been generally favorable. Price changes have been such as to give by 1983/84, average nominal protection close to zero, and at the least output prices have increased no less than input prices. These changes leave intact the issue of the wide differences in nominal and effective protection given to agricultural products versus non-agricultural ones, which are a strong disincentive to promote investments or productivity in agriculture.^{18/}

3.7 On the consumption side, prices of bread (and possibly pasta) are well below economic cost, even though it is difficult to assess the extent of the subsidy because world prices for bread are not obtainable. As Annex I notes, a study by CIMMYT strongly suggests that Tunisian bread is heavily subsidized, costing about US\$0.23 per kg. in comparison to \$0.66 per kg. in Chile and Uruguay, or \$1.24 to \$1.30 in France and Italy. Clearly Tunisian consumers benefit from the subsidy, but not at the cost of the producer, rather at the cost of the Central Budget. It is the large CGC subsidy to millers, bakers and pasta makers (TD 116 million in 1983 and 162 million in 1984) that permits this social benefit to consumers. Section 3 considers whether the same consumer benefit can be achieved at a lower financial cost.

^{17/} There is a trend in throwing unused bread to garbage. This phenomena was used for public opinion by the Government to justify the decision of doubling cereal-based product prices. Moreover, the Muslim religion severely condemns food wastage.

^{18/} See for details, the report: Tunisia, Agricultural Sector Survey, in two volumes, No. 3878. TUN, dated September 29, 1982.

3.8 Several Tunisian studies as well as earlier Bank reports note that CGC subsidies are regressive because higher income households consume larger amounts (Table III-2). But, if subsidizing food prices does not automatically attain the equity objective that underly cereal product pricing policy, there are several counterpoints to this conclusion. First, the incidence of food subsidies is less unequal than the distribution of income, so that subsidy effect is on balance to reduce income disparities slightly; the poorest one quarter of the population receives 7.5 percent of income after subsidies, a slight improvement over the 7.0 percent before. Second, the importance of subsidies in low-income budgets (about 7 percent) is much greater compared to high-income budgets (2 percent). Third, the regressiveness is less for cereals than for other products (Table III-3). For all food the absolute benefit per person for the high-income group is 4.5 times higher than for the lowest-income group for cereals; this is only 3.2 times higher. Inasmuch as cereal subsidies are half of the total incidence for the low-income groups and only one-third for the high-income group, elimination of non-cereal items from CGC coverage would much improve the distributional impact. Finally, the fourth argument often used in favor of across-the-board price subsidies is that inefficient as they may be in achieving income redistribution, they are more efficient and less cumbersome than direct targeting (Section 5).

Table III-2 - INCIDENCE OF CGC FOOD SUBSIDIES BY INCOME GROUP, 1980.

| <u>Income Group</u> | <u>Share of Food Subsidy Benefits (%)</u> | <u>Share of Income</u> | |
|---------------------|---|------------------------|----------------------|
| | | <u>Before Subsidy</u> | <u>After Subsidy</u> |
| 1st Quartile | 12.5 | 7.0 | 7.5 |
| 2nd Quartile | 20.8 | 12.0 | 12.3 |
| 3rd Quartile | 29.2 | 25.8 | 25.7 |
| 4th Quartile | 37.5 | 55.2 | 54.5 |

Source: Institut National de la Statistique, Les Effets de la Caisse Générale de Compensation sur la Distribution des Revenus en Tunisie, Oct. 1981.

3.9 In conclusion, it may be said that the present system of subsidized fixed prices for staple products creates only limited resource allocation distortion and does achieve an improvement of relative income distribution, 19/ but these equity benefits entail an unjustified subsidy to high income groups; hence the total financial cost is very large and difficult to justify by social and economic cost-benefit considerations. It should be possible to remove some of this "unjustified" subsidy and/or to reduce considerably

19/ It may be appropriate to look at the regressiveness of the revenue side to make a full assessment, because, as noted in para. 3.3, it may be argued that CGC revenue would not be collected without the staple subsidy system.

the financial cost without lowering the benefits accruing to low-income groups. This would mean a continuation of subsidy support in the medium term but at a much reduced level and with parallel policies to address the equity objective and phase out subsidies in the long run; as mentioned in para. 3.1, budgetary subsidies in time of financial squeeze should be used where they provide the highest socio-economic benefits. These policy objectives--many of which have been initiated or are being considered by the Tunisian authorities--are explored in Sections 3, 4, and 5.

3. Potential Savings for Cereal-Based Products

3.10 A recent Bank report (Ref. para. 1.3) puts forward the hypothesis that CGC subsidies compensated excessive intermediary costs of production (milling, baking, transport, and storage). This report found that not all the subsidy benefits intermediaries for bread prices are economically subsidized and consumers do benefit. Nevertheless, the mission found evidence that, for example, excess payments might indeed occur in the baking sector and the direct subsidies actually paid out to bakers (TD 36 million both in 1983 and 1984) may be greater than needed to maintain the price of bread. The possible excess is in two forms: (i) in urban areas there is a diversion of grain from the large low-priced type of bread to the small higher-priced type; and (ii) the production costs assumed by DPC in calculating baker's subsidies may be overly generous. This last is a tentative conclusion for benchmark data on production costs is simply not available, precluding calculation of economic production costs in baking.

3.11 In spite of poor availability of information, the mission could put the following price structure together. At present, bakers receive TD 9.033 per quintal of flour purchased, calculated on the basis of technical coefficients of production costs and assuming that 85 percent of flour is used for baking the 700 gram "gros pain" (large loaf) and 15 percent for the 300 gram "petit pain" (small loaf) (Table III-4). The small loaf is in fact more profitable. With a price of 50 millimes compared to 80 millimes for the large loaf, it yields a revenue per quintal of flour of about TD 20 compared to about TD 14 for the large. This naturally creates an incentive to produce more of the small loaf; only consumer demand or administrative control could keep actual proportions from deviating too much from the 85/15 split. Control being difficult if not impossible, this leaves only demand. But tastes for bread have apparently been moving in favor of small loaves, especially in urban areas; hence there is a strong but unconfirmed suspicion that much more than 15 percent of flour goes to small loaves. In fact, there is also an additional loss through diversion of subsidized grain from baking to pastry making, which have free prices and are even more profitable. Beyond these losses due to diversion of subsidized flour, one could come from an unnecessarily high subsidy of TD 9 per quintal. The input-output coefficients used by DPC to calculate the subsidy come from a 1980 survey (Annex III, Table 2), and the costs have been updated to reflect wage and price changes. These coefficients are to be reviewed in the near future. The mission thinks that

Table III.3: ANNUAL SUBSIDY AND PER CAPITA EXPENDITURES ACCORDING TO PRODUCTS, 1980

| <u>Good</u> | <u>Less than TD70</u> | <u>TD70 to 120</u> | <u>TD120 to 200</u> | <u>TD200 to 300</u> | <u>TD300 to 500</u> | <u>TD500 to More</u> | <u>Total</u> |
|--------------------------|---------------------------|------------------------|-------------------------|-------------------------|-------------------------|--------------------------|---------------|
| Cereals | 1.935 | 3.099 | 4.231 | 4.985 | 5.721 | 6.225 | 4.334 |
| Oil and Sugar | 1.472 | 1.997 | 2.472 | 2.846 | 3.284 | 3.663 | 2.583 |
| —Staple Caloric Goods | 3.407 | 5.096 | 6.703 | 7.831 | 9.005 | 9.888 | 6.917 |
| Meats, Eggs, Milk | .355 | .920 | 2.171 | 3.555 | 5.072 | 8.105 | 2.993 |
| <u>Soap</u> | <u>.146</u> | <u>.196</u> | <u>.245</u> | <u>.292</u> | <u>.343</u> | <u>.434</u> | <u>.266</u> |
| <u>TOTAL</u> | <u>3.908</u> | <u>6.212</u> | <u>9.119</u> | <u>11.678</u> | <u>14.420</u> | <u>18.427</u> | <u>10.176</u> |

(Distribution in Percentage of Total)

| | | | | | | | |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Cereals | 49.5 | 49.9 | 46.4 | 42.7 | 39.7 | 33.8 | 42.6 |
| Oil and Sugar | 37.7 | 32.1 | 27.1 | 24.4 | 22.7 | 19.9 | 25.4 |
| —Staple caloric goods | (87.2) | (82.0) | (73.5) | 67.1 | 62.4 | 53.7 | 68.0 |
| Meat, Eggs, Milk | 9.1 | 14.8 | 23.8 | 30.4 | 35.1 | 44.0 | 29.4 |
| <u>Soap</u> | <u>3.7</u> | <u>3.2</u> | <u>2.7</u> | <u>2.5</u> | <u>2.5</u> | <u>2.3</u> | <u>2.6</u> |
| <u>TOTAL</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> | <u>100.0</u> |

Source: Table III.2.

they may be excessive, especially the labor component.^{20/}

3.12 To get a definitive conclusion, actual large disparities in data would need verification. The review of the baking subsidy formula that DPC is planning to undertake should be done as soon as possible. If the subsidy per unit is proved to be excessively generous, then of course this would allow a financial saving in CGC operations without any decline in benefits for consumers. Such a review of the coefficients and cost calculations should be extended also to the milling sector. Indeed, the subsidies for bread making (TD 36 million) are much less than the implicit subsidy at the earlier stages of processing which, taking the form of below-cost grain sales of the Office des Cereales, amounted to TD65 million in 1983 and 100 million in 1984. While the mission was unable to investigate the other processing sectors, it found a widespread agreement that cost estimates need review not only for baking and milling, but also storage and transport of grains.

^{20/} As an indication, we compare the relative cost of labor in the 1977 input/output Table with the formula currently used by DPC. Absolute comparisons are not possible as the I-0 Table does not provide quantities, and comparing technical coefficients is meaningless as in both cases these must add up to one. Taking as a benchmark a raw-material input most likely to be well estimated in both formulas, yeast, we find that the relative cost of labor in DPC formula is 10.3 times the costs of yeast, while in the I-0 Table it is only 7.5. Similarly, labor costs as a proportion of total costs or total value excluding subsidies is about a third in the DPC formula, and only half of this in the I-0 Table. The comparison is summarized below:

| | Weighted DPC Formula (Millimes per <u>Quintal of Flour</u>) | 1977 I-0 Table (TD'000 Dinars Total <u>Expenditures</u>) |
|-------------------------------------|---|---|
| Yeast | 805 | 278 |
| Salaries | 8,280 | 2,101 |
| Total Cost | 23,467 | — |
| Production Value (excl. subsidy) | — | 12,764 |
| Salaries to Yeast | 10.3 | 7.5 |
| Salaries to Total | 0.35 | 0.16 |

Source: DPC formula as shown in Annex I, and provided by DPC; I-0 data from the Institut Ali Bach-Hamba.

3.13 In conclusion, because cereal-based products are the largest component of CGC budget (TD 140 million approximately in 1984 excluding animal feed) they would seemingly provide the largest possibilities for cost savings. However, the equity benefits are proportionately greatest in cereals (Table III-3). It is, therefore, probable that the easiest "benefit/cost" gains would come from reducing or even eliminating the subsidies on non-cereal products.

4. Other CGC's Interventions

3.14 Among non-cereal products, only oils and sugar are similar in size and social importance to cereals. These two, which add to TD40 million or more ^{21/}, are potential products to include in a shortened list of truly key staples to remain under CGC's interventions. Just as with cereals, they should be looked at more closely for any possible "excesses" in subsidy payments.

3.15 Most of the other subsidies could be removed from CGC's interventions, gradually but without too long a delay. They include:

- Feedstock subsidies (over TD 20 million in 1984), which do not achieve equity goals as they benefit large capital-intensive producers. Also, they create large allocation distortions, strongly favoring capital-intensive feedlot operations over traditional pasturage. Though meat products have a nominal protection of zero, subsidizing feed results in an effective rate of protection ranging from zero for the traditional herding to 280 percent for feedlots (Annex I).
- Fertilizers subsidies, which can also have similar effects; just how much depends on whether usage is concentrated in large high-income farms or not. Such issues should be clarified in an agricultural sector survey, and a recommendation on fertilizer subsidies cannot be made before. If it is found, however, that fertilizers use is concentrated, subsidies should be gradually removed from CGC interventions, and direct targeting mechanisms to reach smaller farms should be developed instead. Retaining fertilizers subsidies could only be justified if it can be shown that their use is reasonably distributed by income and farm size groups.
- Meat subsidies, which were to be eliminated according to recent policy announcements, but this has not yet occurred. Since this subsidy strongly favors high income consumers it cannot be justified by equity objectives, and the announced policy change should be implemented as soon as possible. Beyond this, meat continues to be subsidized indirectly via feedstock subsidies. This could become a fast-growing source of expenditures because of the high elasticity for meat consumption.

^{21/} The subsidy for sugar shows different values in different sources and the exact value could not be verified; but it is certainly well over TD 10 million.

- Subsidies for milk and butter, which are not as regressive as for meat, but given the small volume of these two subsidies (TD 10 million in 1984) their removal would have a negligible negative impact on low income consumers. For example for milk subsidies, low-income individuals (below TD 70) received TD 3.9/capita in subsidy benefits in 1980; only 32 millimes was estimated to be for milk products or less than 1 percent. For high-income individuals (TD 500 and more) this was TD 1.142 or 6 percent of their total subsidy benefit of TD 18.4 (Table III-3). There is little reason to provide such a strongly regressive subsidy, particularly in a product for which direct-targeting may be feasible in the form of school distribution for young people, or through integrated rural development programs.

3.16 Other subsidies of minor importance that could be promptly removed soon like for school paper. Though it is about TD 2 million, there is little reason to retain it. Some of this is probably wasted, as school paper can easily be diverted and illegally used for other purposes. The incidence is regressive, especially if one includes rural pupils. And finally, this is certainly a product where direct targeting can be quite easy and more equitable. At the least one could distribute paper to all pupils; possibly one could discriminate in favor of rural areas, or even within urban schools in favor of low-income pupils. Lastly, two items that have in practice already disappeared from CGC should perhaps be formally removed to preclude future expenditures. This is the cross-subsidization of transport charges for cement and petroleum.

5. Direct Targeting Alternatives

3.17 In the long run, direct subsidies to low income consumers will be economically more rational than subsidized prices, as they avoid resource allocation distortions and "unjustified" subsidies to higher-income households. In the medium run, until the system is being phased out, their distortive effects should be minimized by pursuing further the commendable policy of making the subsidy explicit and paid by budgetary funds rather than be borne by producers as often happens in other countries. However, with such an approach the problem of unjustified subsidies to high-income households remains. Direct targeting has been considered and discussed within the Tunisian administration, but not sufficiently followed up. It is often argued that direct targeting is subject to abuse, administratively costly if not impossible, and socially undesirable in that it generates a "welfare mentality." Judgment on the last point is beyond the scope of this mission, but one should note that subsidies which keep prices unchanged for long periods of time also engender unhealthy expectations of government support, by the entire population, needy or not.

3.18 Direct distribution to disadvantaged groups is more difficult where personal income taxation mechanisms are not well-developed, but the amounts of unjustified subsidy to the richer households are becoming so large that direct

targeting should be considered much more seriously. Furthermore, Tunisia has progressed to the stage of development where such mechanisms should begin to be established, not simply for the sake of providing a means of direct income redistribution but for fiscal reasons. Taking cereals, sugar and oil alone (on the presumption that the "high-income" goods are eventually removed from CGC interventions), the top half of total income earners receives about 50-55 percent of the subsidy benefits, or about TD 45 million in 1983 and about TD 75 million in 1984, with almost no regressivity (Table III-3). Clearly, even a direct-targeting procedure that lost some amount to abuse or administrative difficulties could still result in a substantial financial savings. The potential amounts are much too large to dismiss direct targeting lightly. Further study should be made of direct targeting possibilities, as a full or partial replacement to price subsidization and that some of these mechanisms begin to be applied on an experimental basis in the near future.

3.19 While it is certain that direct targeting is administratively costly, there are precedents as well as existing mechanisms in place upon which a system can be built. For items such as school paper, milk and food for children, schools are of course a mechanism used in many countries and were used in Tunisia in earlier years. Family planning centers can provide the mechanism for some direct targeting for infants and mothers, while public works employment programs can facilitate food subsidies or in kind distribution for the unemployed. The Regional Employment Offices, which register unemployed, are another possibility for identifying target groups. Further, this may be an opportunity to make the offices more comprehensive by using it for such purposes. Indeed, one general benefit of increased actions of targeting is that this would in itself build up the fiscal and social institutions that Tunisia will use in future. The existing target program in health-care delivery (Cartes d'Indigence) is considered problematic because of abuses and fees that are too low, but nevertheless it demonstrates that identification of "poor" people is manageable.^{21b/} In rural areas—where of course poverty is most widespread—the evolution of the Integrated Rural Development Programs will increase the possibilities for effective direct targeting (for food as well as agricultural inputs) through better information on incomes, institutions and administrative systems and with field staff more able to identify target groups.

6. Price Subsidy Policies in Medium and Long-Term

3.20 Direct targeting is little used presently (except in health), and policy actions to develop targeting mechanisms are likely to take time and in any event will not be effective for all staples. In the short term, continuation of price subsidies for some key products may go hand in hand with some targeting and can be justified by equity considerations, but as mentioned in para. 3.1, subsidies may have high opportunity cost compared to other uses of budgetary funds. Therefore, in practice, this must mean a well-balanced

^{21b/} The mission could observe examples of well managed rosters of households classified by potential income levels, which were prepared by county officials. One good example was in the County of Louahga in the Governorate of Mahdia.

set of policies to reduce CGC expenditures, and to avoid allocation distortions and promote equity objectives; it will require using the following policy changes in the short to medium term:

- (i) A policy decision specifying a considerably shortened list of subsidized key staples comprising at most bread, durum flour, semolina, and perhaps, sugar and oil.
- (ii) Gradual but rapid removal of other subsidies with some limited substitution via direct targeting for secondary products such as school paper, dairy products, and perhaps agricultural inputs.
- (iii) Small but annual above-inflation increases in consumer prices of the products retained as key staples, to do away with across-the-board subsidies in the long run.
- (iv) In the interim, rationalization of the fixed-price system for key staples to eliminate any possible excess and inefficiencies in subsidies, such as in baking and perhaps milling.
- (v) Gradual introduction of direct targeting for key staples with the intention of eventually replacing price subsidization with such mechanisms.

Because of the need for working budgetary expenditures, a freezing of the subsidy bill for key staple products in 1985 and beyond at a level not greater than the one reached in 1984 in dinar terms is recommended

3.21 A policy of fixed price regime with subsidies for a few key staples may be acceptable on equity and implementation grounds, but such a rationale is only valid if the number of products is small, the equity impacts are positive, direct targeting has been considered and/or is being implemented, production disincentives are very small, per unit subsidies are close to the difference between economic production cost and consumer prices, and total subsidies are not unbearably financially. At present, CGC policy meets few of these conditions. A viable system in the long run will require the five policy changes listed above. If the subsidy system can be successfully improved and streamlined, a reduction in costs may be achieved with minimal reduction in the equity benefits and perhaps even an improvement in the equity effects if earmarked budgetary taxes to CGC are adequately chosen to maximize social benefits. In the longer term, the aim should be to replace price subsidies with direct target. g, pari passu with the evolution towards an increased integration of the whole economy into the formal sector and more flexible economic and well-targeted social policies.

CHAPTER IV. THE COST-PLUS PRICE REGIMES: MANUFACTURED GOODS AND SERVICES

A. DIFFERENCES IN PRINCIPLES AND IN PRACTICE BETWEEN REGIMES

1. The Formulas

4.1 For all three regimes of cost-plus prices (homologation, auto-homologation and controlled freedom), allowable price levels are determined according to the principle: production costs, plus a margin to cover general and administrative overhead costs, plus a "reasonable" return on invested capital.^{22/} Auto-homologation differs from the other two in the manner in which the margin is calculated. It is a percentage of production cost for each product, while in homologation the margin for each enterprise is a 20% return on invested capital equities.¹ A direct consequence of this principle is that the same product can have a different administered price depending on the supplier (para. 4.5).

4.2 First, the unit production cost (prix de revient) is calculated for each product; we label it an Average Production Cost (APC), to emphasize that this is not a marginal cost calculation. This production cost includes all costs others than return on original invested capital and administrative overhead (including financial costs and amortization). Direct raw materials and direct production labor costs are estimated for each product, and total indirect production costs are allocated to each product in proportion to the use of direct labor (Figure IV.1).

4.3 For the indirect production cost elements, indirect materials (matériaux consommables.) are raw material inputs other than those used directly in the final product; it includes fuels, chemicals, cleansing materials, mixing liquids, etc. Finance charges are interest and fees on medium and long term debt.^{23/} Amortization is not equivalent to economic depreciation, but equal to fiscally allowable financial allowances. Other elements are the final addition of costs of packaging done externally and taxes; these items are not shown in Figure IV-1 for the sake of simplicity.

4.4 For homologation, the final allowable sales price for each product is calculated by adding two margins to APC: a net profit margin (y_j) to reflect a 20 percent return on original invested capital (ownership equities); and an overhead margin (x_j) to recover any general overhead expenses not captured under APC. The two together are usually referred to as the gross-margin (marge brute). The margins y_j and x_j can vary not

^{22/} In the laws and regulations, homologation and controlled freedom are usually treated together; though it is somewhat unclear in practice how the margin is calculated for controlled freedom.

^{23/} But not--apparently--charges for short term borrowing of working capital; they appear as general administrative overheads to be covered by the margin x_j or m_i , depending on the price regime.

Figure IV.1:

PRICE CALCULATION FORMULAS

HOMOLOGATION AND AUTO-HOMOLOGATION
(per unit of product i, enterprise j) 1/

Average Production Cost (APCi) = Raw materials Costs (RMCi)
+Production labor costs (PLCi)
+Indirect Production costs(IPCi)

- IPCj comprising:
- indirect materials such as fuels
 - repairs and maintenance
 - small tools & equipment
 - utility costs
 - rental costs
 - finance charges on debts
 - amortization

where
IPCi=kj*(Direct Labor Costi)
and

$$kj = \frac{\text{Total Indirect Production Cost } j}{\text{Total Direct Labor Cost } j}$$

equivalent to
$$= \text{Total IPCj} \times \frac{\text{PLCi}}{\text{Total PLCj}}$$

Homologation

Factory Sales Price (FSPi)=APCi (1+yj+xj)

where yj=net profit margin of enterprise j
$$= \frac{\text{Invested Capital} \times 20\%}{\text{Total Production costs}}$$

xj=margin for general overhead costs
$$= \frac{\text{general and administrative overhead costs}}{\text{Total production costs}}$$

Auto-Homologation

Factory Sales Price(FSPi)=APCi (1+mi)

where m_i = i product category margins as specified in Administrative Order, Jan. 27, 1982 and reproduced in Annex III, Table 3

1/ See Annex III, Figures I and II for official specification by DPC.

only by enterprise, but also from one year next, as the only predetermined value set by administrative ruling (but not in a law or decree) is the 20% return on equities; the other elements in the calculation are based on actual enterprise accounting data.

4.5 For auto-homologation, margins are set by product rather than by enterprise as in homologation and as a percentage (mi) of the average production costs of all domestic producers. For thirty-five different products or product categories, the margins were revised by MEN (Annex III, Table 3). The reasoning behind the change in the method of calculating a margin was that homologation allowed excessive profits to high cost producers by allowing all enterprises a 20 percent return. Auto-homologation was considered more conducive to efficiency as it would provide homogeneous margins by product rather than by enterprise, but in practice the formula means that the same product produced at different cost structure by different companies will have different prices (para. 4.44). The margins established in 1982 were so set, in principle, as to capture the elements of the two homologation margins, namely a return on capital and a coverage of general administrative overhead. They were established by a process of negotiation/discussion between the administration and the national associations of producers and traders (UTICA). The starting point was the pre-existing gross margins under homologation ($y_j + x_j$), which were averaged for all enterprises in a given product group. Discussions were held as to the appropriateness and fairness of these margins, until final agreement (for more details, see para. 4.45).

4.6 Controlled freedom is by the letter of the 1972 Law like autohomologation in that enterprises themselves calculate the prices. It is more liberal in that only 15 days are allowed for DPC, after price notification is given, to make any rulings. It is also more liberal in principle because only prices and not costs are submitted. The practise is unclear (para 2.15), but the formula appears to be the same as for homologation.

2. Procedures in Practice

4.7 One, perhaps more important, reason for the shift to auto-homologation in 1982 was the desire to reduce the administrative burden of price regulation. The process of price regulation (Figure II.1) consists of three phases: (I) setting prices; (II) verifying cost data; and (III) applying legal control and sanctions. Sanctions in the event of unreasonable costs tend to be administrative, negotiated with the producers, and relatively less harsh. They can, however, be costly in economic terms, sometimes requiring price roll-backs and payment of several months of excess revenues. A second type of sanction in the event of illegal pricing is more juridical and often harsher, including fines, closing of premises with a requirement to continue paying salaries of workers, and even criminal sanctions.^{24/}

^{24/} Described in summary in "Qu'est ce Que le Contrôle Economique?" Conjoncture, No.69, juin 1982, pp 24-26. The article shows that infractions increased substantially in the period 1980 - 1982, with 5,196 in 1980, 7,692 in 1981 and 3,407 in the first four months of 1982, or an annual equivalent of about 10,000.

4.8 To simplify the task of DPC and to induce greater "self-responsibility" of industrial entrepreneurs, most goods subject to homologation (and some subject to controlled freedom,) were changed to the auto-homologation regime. Under homologation, enterprises requesting a price adjustment submit justification in the form of accounting and cost data, and DPC would have to calculate a new price within 45 days. Auto-homologation was intended to reduce this task by making enterprises responsible for calculating the allowable price themselves according to the formula given, and submitting the justifying data. Enterprises can apply the price immediately, but up to 45 days, DPC can raise an objection and change the price to the original level, to a level lower than requested or even higher than requested. Further the law permits DPC to return even after forty-five days if it finds cause to question the enterprise calculations.

4.9 Whether or how much less administrative effort is required under auto-homologation cannot be evaluated with any degree of certainty, as annual stewardship reporting of the activities of DPC (number of cases filed, returned files, requested applications, accepted applications, reviewed applications for percentage price increases requested and granted, technical checks on production norms etc.) do not seem to be available. However, the mission's qualitative impression does not suggest as big a change as had been expected, perhaps because the administrative-procedural difference between the two regimes would seem not so great, at least in Phase I. Under homologation enterprises submit data, and DPC calculates prices. Under auto-homologation DPC "registers" all the prices and data submitted, but in so doing automatically applies the formula to check the price calculation. For each file submitted both these actions are relatively simple and automatic and no logistic difference exists between homologation and auto-homologation. A difference between the two can only come about in the effort put into Phase II, the control or checking of the files, i.e. whether the economic and technical relations fit pre-specified norms, whether ratios such as labor costs to production costs or technical coefficients of raw material use are reasonable. But this aspect of verification need have little to do with the regime being homologation or auto-homologation; how much effort is applied in Phase II is a matter of policy decision. The Administration's claim that the switch to auto-homologation has allowed more time for the verification and control tasks is not obvious, because whatever the regime, the same basic variables for the cost formula are entered, and a similar price calculation is made. Even if this were not to be done for all files automatically but only randomly, or by some criterion such as percentage price increase of the request, the time saved would not be large since this task is a relatively simple one, especially if the recent installation of computer facilities becomes adequate (para. 2.23).

4.10 It is conceivable in principle that in Phase II auto-homologation could be administratively more efficient than homologation, because

limited control (by random selection or by criteria) might suffice to maintain discipline against fraud and/or excess costs. But lack of annual reporting on price-regulation activities precludes a conclusion on whether such a change has occurred in practice. But even if this were done, it is necessary to have a procedure for choosing the files to be controlled. The difficulties involved in this choice are outlined in subsequent paragraphs.

3. The Administrative Problems of Price Controls

4.11 As not every single file submitted to DPC can be followed up in great detail it is necessary to restrict control to a manageable level. To ensure the greater efficiency of the procedure two things are needed: a systematic set of criteria to isolate selected files for closer analysis, and a set of norms to judge the economic validity of enterprise costs for the selected files. The second may in fact be a nearly intractable problem and a fundamental weakness of any administered price system. But the first should not be as difficult. In the Tunisian practice, the procedures for identifying files for closer investigation are less systematic than they might be, indeed they tend to be rather ad hoc. The mission could not obtain documentation or explanation of what criteria are used, other than general ones such as "obvious" aberrations of costs, price changes, public and press complaints about specific products, etc.

4.12. A long list of factors that could be used as criteria can be enumerated: excessive price increases; price increases above the industrial branch average; incomplete files submitted; complaints about quality of products or about price levels (by public, press, or administration sources); "unjustified" increase in raw material use in physical and/or value terms; larger than "normal" labor cost increase, etc. But these criteria should be part of a systematic procedure describing uses, values, application methods, results for previous cases, usefulness and so on. At present, however, any of these criteria would not be effectively applied given the available information and extremely limited resources of DPC. For example, average price increases by sector or branch, a standard criterion to use, is not available even though this information should be a normal part of regular reporting on the activity of the price regulation authorities.

4.13. In counterpoint to the above, flexibility of expert analysis (instead of rigidity of quantitative criteria) is perhaps desirable and more appropriate for the subsequent task of the actual verification and investigation, rather than at the stage of identifying cases to be verified. For this first task the advantages of a systematic procedure are obvious, and the possible arbitrariness of ad hoc procedures are to be avoided. We recommend that the procedure of selecting files for in-depth verification be reviewed and made more systematic. Random selection using sample stratification techniques should be considered as an alternative along with formal criteria.

4.14 Once the procedure reaches the stage of verifying that technical or economic "data" are reasonable, DPC generally relies on technical expertise elsewhere in DGC, and other MEN departments, or even other ministries. Flexibility rather than rigid rules are more justifiable here because of the large variety and heterogeneity of products, the large

number of inputs, and the many technical combinations of production possible. This complexity means that the amount of work may be too large and complicated to be done correctly for more than a small number of products in any one year. The question then arises whether this is enough to maintain "discipline" among producers.

4.15 The switch from homologation to auto-homologation has unwittingly added to the difficulty of the administrative verification through a small legal change. Under homologation, DPC calculated a price on basis of submitted cost data; if a cost for some raw material input was judged too high, the value could be adjusted by DPC, perhaps arbitrarily, perhaps by reference to a unit cost as available in import data. With auto-homologation, an enterprise needs only justify the cost with a valid, non-falsified bill of sale. Since profits allowed to an enterprise are a proportion of production costs (the mi margin in Figure IV.1) there is an embedded incentive to purchase expensive inputs. In fact, because of this loophole, the pricing authorities can legally exercise administrative discretion to counteract such a behavior. But this is not just a sign of the strength and flexibility of the system. It is also a sign of the inherent and fundamental problem making enterprises "responsible" for their own price calculations to reduce DPC's burden has probably resulted in better enterprise accounting documentation, but at the social cost of creating an incentive to buy highest cost rather than lowest cost inputs.^{25/} This in turn requires DPC to verify input costs too.

4.16 Another example of the need for adjustment in rules and procedures is a formula that DPC said it used for verification phase, although it does not appear to have the formal or regular status of the two discussed in Figure IV-1. This formula includes a correction of the unit cost calculation for the possibility of low capacity utilization, intended to induce greater utilization. In principle DPC considers that enterprises should operate at 80 percent capacity or more before they are allowed to use the full-cost formulas of Figure IV. 1 (though this is not stated in the legal documents or administrative guidelines available to the Mission). In the event an enterprise operates at less than full capacity, allowable fixed costs to be applied in the formula are adjusted downward from actual fixed costs by the proportion of actual capacity utilization to 80% utilization. That is: ^{26/}

$$APC_i = VAR\ COST + FIX.\ COST. \frac{(C.U.\%)}{(80\%)}$$

where VAR.COST = Actual variable costs,
FIX.COST = Actual fixed costs (amortization, finance, rentals)
C.U.% = Actual % capacity utilization.

^{25/} An example of such behavior concerns the purchase of equipment resulting in over capitalization and low utilization rate as described in the Employment Report (Tunisia, Industrial Employment Promotion Issues, No....., TUN, dated.....).

^{26/} This formula reflects the mission's interpretation of DPC's stated procedure. The exact contents of the various costs remain to be verified in particular what exactly is defined under fixed costs as opposed to variable costs.

The mission could not analyze how this adjustment is applied in practice; since it differs from the standard formula, it is important to know if it is applied automatically as each file is entered in DPC's register and the price formula is applied, or whether it is applied only for some cases. But, since the information on capacity utilization remains too often vague, it is uncertain that this could be easily done on a regular basis. Furthermore if it was to be done in all cases, in the case of auto-homologation this adjustment is not specified in the legal or administrative documents (Annex III, Figures 1 and 2) and would necessarily mean that enterprises calculate the price without the adjustment and DPC makes this adjustment ex post. 27/

4.17 Paras 4.19 to 4.25 consider the conditions under which the theoretical rationale of such an adjustment to induce greater capacity utilization is valid or not. This paragraph elaborates on the practical aspect: can the degree of capacity utilization be easily known? The data file submitted by each enterprise for price changes does, in principle, require an estimate of full capacity production for each product (in the technical file or "Fiche Technique"). Three difficulties arise casting doubt on the validity of this datum. First, there is a strong incentive for an enterprise to understate its full capacity in order to overstate its fixed costs. Secondly, so far the capacity adjustment formula has been sufficiently in the background of actual practice that the very notion of full capacity for each product is not and cannot be clearly defined: if many alternative products are produced or produceable, is the full capacity for one product such that all others are also at full capacity? or other remain at present levels, or fall to even lower levels? In fact, in a multi-product plant full capacity for a product is not a clear-cut concept. Finally, to the present, it was commonly observed in the files reviewed by the Mission that the entry for full capacity production is not completed by the enterprise. In sum, whatever the theoretical reasonableness of the concept, there are a number of practical problems in applying such a rule. It is recommended that the use of the capacity utilization formula be clarified and that it be systematized.

4.18. This problem is one more example of the general characteristic of administered prices and of any ex-post cost checking system: every problem requires, and leads to, an ingenious additional rule, and every new rule generates new problems, requiring new rules. The fundamental problem of administering prices is that one must, allow producers reasonable costs and returns; this induces them to overstate costs legally or even fraudulently; but the volume and complexity of cases precludes comprehensive administrative verification; therefore, rules and criteria need to be devised; but rules always contain loopholes.

27/ The mission's review of several specific files on homologation and auto-homologation (for such products as electrical equipment, radios and televisions, construction materials and food processing) did not encounter any evidence of such a modification being applied. In all cases observed, both the calculation by the enterprise and the computer printouts of the initial DPC registration and price calculation for the products used only the formula of Figure IV.1.

B. THEORETICAL RATIONALE AND IMPLICATIONS OF COST-PLUS PRICING

1. Main Justifications and Effects

4.19. The theoretical aspects of cost-plus pricing are sufficiently new and sufficiently complex, that it deserves some amount of discussion. This section addresses the issue of the industrial price formulas by considering their theoretical validity and probable consequences in practice. The discussion presumes that some degree of industrial price regulation will be maintained (if for no other reason than the inertia of the existing system because there is little justification for price control of manufactured products), and considers the theoretical validity of existing formulas and their implications on producers' economic behaviour.

4.20 Among the justifications for price regulation observed both in theory and in practice a usual one is a "natural monopoly" for infrastructure activities with positive externality as some may be at early phases of development. But this is certainly not the situation for most industrial products covered by the homologation cost-plus regimes (see Chapter V for utility pricing). Another justification is that social effects such as equity are so important that prices below opportunity costs are justified. This again is largely not applicable to industrial goods, though it may be relevant to basic staples (Chapter III) and social services (see health and education in Chapter V). Another possible justification is the economic externalities or spill-over effects of key industrial goods - exportable resources such as phosphate, cement, fuels and power, capital equipment. Again, this is not relevant to the broader range of industrial goods; some key goods are in fact covered by the fixed price regime (Chapter III).

4.21 There may be finally the justification of dynamic learning-by-doing, comparative advantage benefits, which indirectly creates a need (i.e.: justification) for price regulation. Infant-industry protection may be theoretically justified in this way, and indeed often is so justified in practice. It is quite apparent this is the implicit (if not explicit) rationale for the Tunisian policies of import controls (tariffs, import restrictions) as well as restrictions on investment licensing. This can lead to monopoly tendencies given the small market, and one therefore needs price regulation to preclude uneconomic behavior and excess profits.^{28/} In fact price regulation not only controls but also

^{28/} Though we emphasize here three caveats: it is not self-evident that this is justifiable and should be closely considered by policy makers; it certainly can only be justified for a small portion of industry at one time and not all industries at the same time; finally justifying the existence of a potential infant industry does not mean it is best helped by import protection; indeed other policies are often more effective. (See, for example, Ann Krueger, Finance Development, July 1984.)

supports the infant industry by assuring "reasonable" return through the profit margins allowed.^{29/} In the Tunisian practice, this theoretical rationale is implicit in the statement of the second objective (Chapter II, para. 2.4): "accord producers in key sectors reasonable returns to induce investment, production, and employment."

4.22 The above is a justifiable theoretical rationale for regulating prices of industrial goods but to justify it in practice, one should address two basic questions. The first is: can it be justified for all industrial goods; if not, in which products and sectors is it justifiable (para. 4.54)? Even if the dynamic infant-industry rationale applies for a limited range of products, there is a second question to pose: is the existing set of formulas and procedures theoretically and practically consistent with the objectives of promoting industrialization and controlling the monopolistic behavior? Only this second question is addressed in the present chapter.

4.23 The objective of inflation control seems to be another rationale in the view of Tunisian policy makers. It became overriding and was imposed and reactivated to the burst of inflation in the early eighties, although it was not the main factor behind the price fixing formulas and procedures. Moreover, the anti-inflation policy was not applied by modifying the existing regulation system for industrial goods, but inflation control in 1983 was in effect super-imposed upon the system (para. 4.48).

4.24 As price regulation now operates in Tunisia it has a tendency to create a large number of undesirable side-effects with no overwhelming indication that the stated objectives of price regulation (industrial promotion and inflation control) are well met. The list of negative effects is quite long and inter-related to such an extent that the ensuing discussion may contain a good deal of overlapping, but one can isolate the following major tendencies:

- (i) -- tendency to collusive action among producers and thus tendency to excess profits
- (ii) - tendency to distort prices from opportunity cost, and hence to result in allocation inefficiency
- (iii) - tendency to excessive capital-labor intensity and underutilization of capacity.
- (iv) - tendency to micro-inefficiency "(X-inefficiency)"
- (v) - tendency to inflationary cost increase
- (vi) - disincentive to productivity improvement
- (vii) - disincentive to quality improvement
- (viii) - tendency to increased complexity of administrative tasks.

^{29/} This dual role is very much part of the "étatist" philosophy behind administrative actions in Tunisia (para. 2.5). It is stated quite explicitly (for example) in a recent article on public enterprises: Harrar, Tijan, "Les Entreprises Publiques: l'état gendarme, l'état providence, l'état patron." *Conjoncture*, No. 80, juin 1983, P. 17-18.

4.25 Not all of these effects are equally strong or important, nor do they all occur at the same time. Some are "substitutes" (excess profits may be dissipated by micro-inefficiency); others may be partly or wholly countered by stricter applications of pricing rules (e.g. the tendency to excessive capital - labor intensity and under-utilization of capacity may be overcome by the capacity-utilization adjustment, para. 4.16); still others can be and are controlled by strong ad-hoc measures (e.g. inflationary tendencies were offset by the strict "voluntary" price controls of 1983). Nevertheless, the various tendencies are widespread and for the most part have been recognized and even described in many Tunisian documents (ref. para. 1.2). There have been only modest movements in actually addressing these problems in the first years of the VIth Plan, however, largely limited to a shift to auto-homologation from homologation and fixed prices as already discussed and as elaborated in subsequent paragraphs.

2. Collusion

4.26 The tendency to collusion is a natural phenomenon in a small economy with few producers, and an oligopolistic structure invariably develops unless it is countered by liberal imports. The three components of the pricing policy in Tunisia (Fig. II 1) tend to reinforce rather than counteract the oligopolistic tendency. Import restrictions reduce external competition, and hesitation to grant new entrants licences to invest (because the Administration has estimated an over-capacity) removes another potential source of competition. While the cost-plus price regime is in a position to counter the oligopolistic effects of excess profits and production below socially-efficient levels, it may promote or at least facilitate collusive action. This is so for three reasons. First, the system allows "justifiable and reasonable" costs in calculating a price; producers thus have an incentive to collude on the information conveyed to the administration for determining what are reasonable costs. Second, the formulas for both regimes allow for margins to cover profits, and producers are quite explicitly asked for their views on an appropriate margin like for the 1982 auto-homologation regimes (para. 4.5). In this respect at least, the homologation formula with an across-the-board 20 percent return was less harmful than the new regime. Third, in many situations the Administration convenes producers to come together and discuss things such as margins, costs, technical norms, etc. Negotiations between social partners are part and parcel of the government's philosophical approach to social consensus, and this is all intended by the pricing authorities as a mechanism for influencing producers to be more "responsible", more efficient, produce better quality goods, etc. Some of these socially positive desiderata may indeed be achieved. But the grave risk nevertheless remains that the price-regulation system not only induces producers of similar products to collude in their self-interest, but it actually provides a mechanism and forum conducive to their implicit or explicit collusive activities. As difficult as it may be, pricing authorities should minimize such formal reliance upon the industry for cost and production norms.

3. Resource Allocation Distortions

4.27 A tendency to distorted prices, relative to social opportunity costs, will arise in the Tunisian system because the formulas are in effect average cost and not marginal cost calculations. This is so even abstracting from the

practical difficulty of over-stated costs (point (v) in para. 4.24). In theory, a monopoly situation is socially sub-optimal because production is lower than opportunity costs dictate while prices and profits are higher.^{29/} Regulation of prices can never fully compensate for both of these faults (see Annex III, Figure 3 for details). In general, marginal cost pricing will result in optimal allocation of resources to the activity (the "correct" level of production, Case I in Figure 3), but still permit excess profits. In contrast average cost pricing (Case III in Figure 3) eliminates the excess profit, but leads to a production level beyond the socially optimal. These theoretical principles find frequent applications in practice in the regulation of "natural" monopolies in many countries (see Chapter V). The actual situation of industrial goods in Tunisia is somewhat different. Unlike natural monopoly services, industrial goods can also be imported. These are generally allowed (with duty) but are often restricted through direct quotas or through foreign exchange controls. Furthermore, imported products are often considered by consumers of better quality and are commonly in short supply, because they are in some sense rationed. On the domestic side, two characteristics are relevant: capacity utilization is generally low; and Tunisian producers are not commonly considered "aggressive" entrepreneurs.^{30/} This may mean that producers are not profit maximizers but rather "satisficers" ^{31/} and requires a different and more complex interpretation of producer behaviour. Adding all these complexities to the usual regulation analysis means the results are far less clear cut than the simple theoretical picture (See Annex III, Figure 6). This means in effect that one does not know exactly the effects of price regulation in the Tunisian situation.

4.28 The principal aspects of the price regulation practise in Tunisia suggest the following interpretation of what average cost pricing does in the actual circumstances. This is schematically represented in Figure 4, Annex III. With a proper institutional and legal framework, much of Tunisia's industry should be sufficiently efficient that most production costs are at least within the range of tariff-laden world prices for similar goods. Also in quality terms foreign products are frequently preferred; thus, when they are restricted because of foreign exchange shortages, buyers who can first take the foreign product leave unsatisfied buyers to demand the products domestically produced (Demand curve DD in Figure 4). Average cost pricing under the existing regime must lead to an internal equilibrium of supply and demand where average cost equates to the "net" domestic demand. With conventional U-shaped average cost curves this can occur at two levels of production, (Cases I

^{29/} For a general background on pricing theory, consult "Pricing Policy for Development Management, edited by Gerald M. Meier, EDI Series, World Bank, 1983.

^{30/} See e.g. Rapport de la Sous Commission (page 46; Ref. para. 1.2), "Le manque d'agressivite et l'absence d'un veritable esprit d'initiative constituent les principales faiblesses de nos entreprises". The mission considers that one important explanation for lack of aggressiveness is mainly a consequence of the structure of incentives favoring domestic production over exports under a restricted import regime.

^{31/} We mean by this that producers will be satisfied with a profit below the maximum possible. The tendencies to collude, inflate costs, reap excess profits hidden in generous amortization allowances, all provide a financial "comfort" that further enhances the satisficing tendency.

and II in Figure 4), the position being essentially chosen by producers who add up their costs, submit the data to DPC and charge a price equal to average cost. A higher level of production (Case II) is perhaps at first sight the obvious choice, for after all this yields greater total "normal" profits (there are no excess profits with average cost pricing).

4.29 Two considerations may lead to the lower level of production (Case I in Figure 4, Annex III). First, producers may not be profit maximizers but satisficers, and the lower production may generate enough financial rewards to satisfy them, while going beyond that requires more effort.^{32/} Second, the per unit profit allowed under the auto-homologation system is in fact higher at the lower production level, because costs are higher and profits are a proportion of costs. This of course means that the increase in profits by expanding production is not proportional to the expansion. This effect could be lessened by using the more rational calculation of homologation and by application of the capacity utilization adjustment. But existing low capacity utilization would confirm that the lower quantity of production (Case I in Figure 4) is more likely the result that occurs in practice than the higher quantity.

4.30 Even if the higher quantity equilibrium is attained, this is far from optimal. Whenever imports are possible, the marginal cost to an economy is the world price (plus perhaps temporary assistance for justifiable infant industry protection). It is only by chance that the higher equilibrium would yield a price equal to this. Furthermore in many industries even the low-cost point of production may be higher than the world price. Also, in the case of auto-homologation the average cost at higher quantities may overstate true economic cost because the profit margin is proportional to costs. Therefore, the average cost formula is likely to allow excess profits, and with restricted imports lead to either excess domestic production or substantial underproduction. A last aspect concerns the relation of import and domestic prices. Both the higher and lower quantity equilibria (Cases I and II in Figure 4) imply that, despite poorer quality, Tunisian products sell at higher prices than imported products. This does often happen though lack of comparable price data precludes full judgement ^{33/}. But domestic prices may be lower because the actual prices of imported products in short-supply are bid up, and "rents" are hidden in the CIF price or local margins, or even in illegal rationing premia.

4.31 If imports are dutied but not limited in quantity, average cost pricing still does not result in the optimal allocation, but the result is likely to be much superior to the case with quantity restrictions. Domestic prices (after quality adjustments) must be equal to the tariff-laden world

^{32/} To go just a little beyond and increase profits slightly, charging the same price P_1 is possible, and may be done, but it is fraudulent as in theory one would have to report a lower cost in the cost-plus administered system (para. 4.35).

^{33/} The Institut Bach Hamba study on effective protection in electrical and mechanical industries (EMI) has several instances of goods for which the domestic price, despite lower quality, exceeds the tariff-laden price of the imported good: electrical cables, transformers, some television sets.

prices, hence domestic production will take place at a lower level if a satisficing behavior occurs (Case III in Figure 4, Annex III), or at a higher level if profit-maximizing does (Case IV). In the first case, domestic production is increased, consumers are better off, but imports are quite large. In the second case, production is lower than with restrictions, consumers are better off, but imports are not as high as under the "satisfying" result.

4.32 Even the last case with higher production and lower imports is less desirable than a marginal cost pricing solution, (Case V in Figure 4). This is because, with unrestricted imports and profit maximizing (Case IV) each unit of the product has a domestic price higher than marginal cost. In effect the Domestic Resource Cost (DRC) exceeds one; thus it is worth the excess resource cost to produce at a level higher than with imports, for this gives more production learning experience to the infant industry and requires less imports.^{34/} But whatever infant industry advantage is merited by producers should be built into the initial protection level already. Additional stimulus to the industry is unjustified. As to the lower imports (Case IV compared to Case V), that again is an illusion. Increasing imports of a good with DRC greater than one saves more domestic resources than it uses, as shifting these resources to an industry with DRC closer to one yields a net gain in foreign exchange.^{35/}

4.33 In conclusion, perhaps the worst combination of pricing policy components is to have quantity-restricted imports with average-cost pricing, especially if "satisfying" behavior prevails among producers, and foreign goods are of superior quality. In fact, these four components seem to roughly characterize Tunisia's industrial good markets. A considerable improvement can be attained if imports are unrestricted and only subject to a duty, but it is even better if pricing is done on the basis of marginal

^{34/} In Figure 4, for Case IV, marginal cost (MC₄) is higher than domestic price PW+T (world price plus taxes); the excess resource cost is equal to $MC_4 - (PW+T)$.

^{35/} In Figure 4, Annex III, the amount gained is the area of the triangle between the MC curve, the PWT line, and the QD₄ QD₅ line. For an approximate procedure to calculate such gains, in practice, see Annex II which takes DRC values in the IME and computes the total gain of shifting resources within the industry from less to more efficient sub-sectors.

cost (MC) rather than average costs.^{36/} This raises the practical problem: how does one calculate marginal costs? To avoid an even higher level of accounting and administrative complexity than already exists, a simple method is to rely on world prices: to an open, small economy, the opportunity cost or marginal cost of any industrial product is the CIF price - plus any tariff protection to account for a perceived (and justified) infant industry margin. Once imports are not restricted, their regular inflow automatically would provide the marginal cost signal appropriate for domestic producers without the need for any formal pricing or control procedure. The problem of liberalizing imports in practice, especially when balance of payments pressures exist, necessarily means a gradual rather than radical move towards such a solution. This is considered more explicitly in para. 4.60.

4.34 There remains the possibility that with unrestricted imports producers, not being profit maximizers but satisficers, will choose the lower production point (Case III in Figure 4, Annex III). If so, the appropriate policies to motivate profit-maximizing behavior are certainly not to apply price controls which assure a market and a reasonable cost-plus "return". As discussed in later parts of this volume, satisfying behavior may in fact be induced by the very existence of a pricing system. The tendencies to collusion, to poor quality, to cost-plus purchasing patterns, to over capitalization, to generally inefficient production, all contribute to this. Further, the extensive phenomenon of an anti-export bias in industry,^{37/} combined with import restrictions add even more of an inducement to be a "satisficer" comfortable with producing for the domestic market. Thus, the very reduction of import and price controls - especially if accompanied by a reduction of the anti-export bias - is likely to contribute to a change in producers' attitudes. In effect, this means that for tradable goods (essentially all industrial products) the best solution in the long run for prices at factor cost is marginal cost pricing; infant industry protection when justified is best implemented through tariff policies; and the simplest and most accurate measure of marginal cost is the (tariff-laden) world price of a product. In the long-run it is recommended that the price system be reformed to accord with these principles.

^{36/} Note in Figure 4, Annex III maintaining import restrictions but shifting to MC pricing is also an improvement. Which of the two is a better first step is not determinate without knowing the elasticity of the demand curve and the MC curve; such indeterminacy is typical of second-best problems unfortunately.

^{37/} As shown very clearly by the Institut Bach Hamba study on EMI's where typically the rate of effective protection for export activity is below 1.0 while that for domestic production is as high as 2.0 - 3.0.

4. Excess Profits

4.35 A tendency to excessive profits may occur with either of the homologation formulas, and depending on the applicability of the capacity utilization adjustment, it may be even greater with auto-homologation. This effect comes first through the likely underestimate of economic depreciation in the formulas, which allow amortization of capital as a financial cost. As accounting procedures for amortization are normally dictated by allowable rates set by fiscal regulations, which frequently overstate true economic depreciation rates, there may be a greater financial flow to the enterprise than presumed in the formula. The actual net financial flow to the enterprise is given by:

$$\text{Net Financial Bonus} = \text{Margins Allowed} \times (\text{Amortization Allowance} - \text{True Economic Depreciation})$$

Under auto-homologation, the basic formula calculates the margin as a percentage of costs rather than the 20% return on capital invested like under homologation; hence if costs are pushed upward, profits will be higher per unit. There are however two characteristics of auto-homologation that may offset this. First, there is the adjustment formula to reflect capacity utilization if it is used systematically (para. 4.16). Second, the auto-homologation margin is intended to cover also administrative overheads (largely salaries), hence it induces the enterprise to be more thrifty with such expenses; in contrast homologation allows actual costs and this is not an incentive for cost saving. How important any of these effects are is nearly impossible to determine either in theory or in practice. In practice, this would require a substantial audit of enterprise operations and an estimate of economic rather than financial amortization. Even in theory, the various opposing tendencies may or may not cancel each other. Indeed, perhaps the most important conclusion here (as well as for many of the other tendencies noted) is that price regulation by administrative means is highly complex, and its effects are very difficult to untangle and ascertain (para. 4.40). Nevertheless, it is likely that the auto-homologation has stronger tendencies to excess profits. This, plus the effect of a higher per unit profit inducing lower production, suggests fixed return on capital is a better pricing formula than the cost-plus margin calculation.

5. Excessive Capital-Labor Ratios

4.36 The same problem of financial vs. economic depreciation creates an incentive to excessive investment in capital, i.e., to increase capital-labor ratios in both the homologation and auto-homologation regimes. Because price-setting formulas are cost-plus, larger amounts of capital give higher amortization costs which can be passed on in prices. Two remarks need to be made. Excessive ratios are also attributable to

other policies quite outside the price-system,^{38/}. This means it is difficult to identify in practice how much of the over capitalization is due to the price regime and how much to other policy inducements. The capacity-utilization adjustment formula (para. 4.16) can in principle mitigate this tendency, as over-capitalization is likely to be associated with excess capacity.

6. Micro-Efficiency

4.37 So far we assumed that enterprises act in a technically efficient manner, keeping inputs and costs at the technically lowest possible level, and that distortions induced by the price-regulation system consist of misallocation of resources. One big problem of administered pricing tends to be the lack of incentives for micro or technical efficiency. In theoretical terms, this means that producers may not be on the technically best or lowest cost curves (as drawn in Figures 3 and 4 in Annex III), but are instead producing at a cost level higher than technically feasible. In practical terms this means actual operating costs are higher than they need to be, as the cost-plus price formulas induce producers to use too much inputs, pay too much per unit of input, and to organize production not in the most cost-effective way but in the easiest, or most "comfortable" way.^{39/}

4.38 Broadly there are three mechanisms by which the price system leads to micro-inefficiency. First, since costs can be passed on in the price formula, there is little incentive to be cost-conscious. If there is some degree of competition in the industry, these negative effects are lessened. The collusion tendencies are re-enforced by this effect of cost-inefficiency. A second, related mechanism is the nature of the profit margin in the formula for auto-homologation. Since per unit profit is a proportion of production cost, it is advantageous for an enterprise to have higher production costs. While this is perhaps less of a problem for the homologation formula, the latter still leaves room for "hiding" some of the profits in the form of excessive administrative overheads, which are then counted in as actual costs. In a small economy with mostly small enterprises owners and managers are likely to be the same individuals, and they would not find it difficult to take their profits in the form of higher managerial salaries, more generous expense and fringe benefit allowances, such as meals, travel, automobiles, etc. Finally, the third mechanism leading to micro-inefficiency is the motivation to rent-seeking that the price-system creates. The threefold combination of import restrictions, investment licensing, and the assured returns via price regulation builds up an administrative structure in

^{38/} See the Special Economic Report on Industrial Employment Promotion Issues, No. __ TUN, dated _____, 1984.

^{39/} The effects have been called X-inefficiency in economic theory, as described in the writings of Harvey Liebenstein. In developing countries, they have been written about and identified most often in connection with public enterprise inefficiency as in Armeane Choksi, "Public Enterprises in Developing Countries", World Bank Working Paper No. 416. This effect is noted in the Rapport de la Sous-Commission (ref. para. 1.2).

which there are profits or "rents" to be gained for those who best get to know and understand the operations of this system. There is an opportunity cost to society of managers becoming "expert" at the intricacies of administrative procedures; they spend less time, energy, and effort at the technical-managerial tasks of achieving the greatest cost-efficiency in production, quality, marketability, etc, and more time at learning the administrative loopholes.

7. Productivity and Quality Improvements

4.39 The theoretical expectations concerning productivity and quality are simple. With prices being set so as to cover costs and provide reasonable returns to industry, the incentive to improve productivity is almost entirely removed, because any lower costs must then be reported and price lowered accordingly.^{40/} As the margin under auto-homologation is a percentage of production costs, productivity improvements would actually result in lower profits. In practice, producers can act illegally and not report lowered costs, or falsify the documents submitted. Thus, paradoxically, the effects would, in the absence of no constraint for reporting lower costs, be to incite productivity because higher profit could be hidden. This is made less likely by the impact of the other restrictive policies (import restriction and investment licensing) which engender a "satisfactory behavior" for producers protected from competition (para. 4.27). The difficulties of data-management caused by DPC's staffing limitations precluded the mission from doing even a simple investigation of, for example, how many enterprises did not ask for price changes, a possible sign of unreported productivity gains, because with inflation at 10 percent or more in recent years, it is unlikely that productivity gains exceeded inflation of costs. Further, sanctions for incorrect pricing calculations are applied and can be severe (para 4.7) hence there is reason to suppose that enterprises are quite likely to not attempt at improving productivity, rather than to do so and then to hide them. These do remain an incentive to quality improvement despite the cost-plus formulas. A better product may capture a larger share of the market and yield a greater total profit to the enterprise. But two elements outside the price formulas make this less likely; the investment licensing and the import restriction regimes.

^{40/} The surveillance for adequate reporting is of course difficult to enforce. The mission was told that the cost production structure is agreed upon when the enterprise starts, and further price changes are linking to changes in input prices or wages but never affect technical coefficients; for example, in the case of baking (para. 3.11) it was recommended to review and update the formula which seems to allow excessive subsidy to the baking process.

8. Increasing Administrative Complexity

4.40 The difficulties and negative effects of administered pricing have been recognized by the Administration. This has led to an increasing complexity of the pricing system. To understand this evolution, which goes beyond the purely logistic and administrative burden issues discussed earlier (para 4.11), it is useful to consider an illustrative list of various administrative difficulties that price regulation has engendered:

- administrative checks of productivity and quality norms;
- treatment of different costs for same product in different enterprises;
- decision on margins for allowable profit;
- rules for allocation of indirect costs;
- treatment of "excessive costs" that are legally justified by documents; and
- treatment of underutilized capacity.

4.41 Past economic policies indicate that there is a common perception in Tunisia, that the ill effects of inefficient production should not be treated by imposing competition via imports and/or more liberal investment licensing, but that instead one should use administrative tools of verifying technical norms and subsequent persuasion in a dialogue with producers. This can be done and has been done in several instances by focussing on a product and reviewing it in depth. For example, cleaning products (detergents, soap powders, etc.) were recently looked at by DGC in collaboration with other agencies and the producers. Production costs as well as technical and chemical quality were put to expert analysis, using as reference comparable foreign products and production procedures. It was found that costs were high and quality low, and the producers were persuaded to make improvements within a period of time to adjust. This "campaign" approach to stimulating productivity and quality improvements has some positive attributes indeed. It may very well achieve some of the desired results, at least temporarily. Furthermore, the possibility that an industry will be "checked" in the future is an inducement to better performance. Apparently, this approach is to be more widely applied, using as a basis an intensive survey of about fifty enterprises carried out in 1983. To the extent price-regulation is justified on economic or social grounds, such control actions are all to the good, but this impact can be made much stronger by greater use of liberalized imports as a "disciplining" element for producers.

4.42 Another negative effect of such control campaigns is the reinforcement of a patronizing administrative climate which motivates rent-seeking and administrative-lobbying behavior among producers, resulting in even greater micro-inefficiency (para. 4.38) Not all industries can be so closely checked. This requires a decision on which ones will be with the risk of creating another ad hoc administrative process. It must also be asked how effective this can in fact be in the short-run compared to the long-run: what prevents the industry from slipping into inefficiency after a year or two? Further, can one objectively determine what is an excessive cost or technical coefficient, given the heterogeneity of products? How does one respond to producers who in the dialogue may contend that a comparison with a foreign production structure is not reasonable given differences in capital equipment, skill levels, years of production experience, etc?

4.43 In fact, the need to use international information as technical norms immediately raises the issue of why not more simply allowing imports to come in more freely (even with duty, if high duty is judged necessary, para. 4.33) and let the competition of these imports serve as the mechanism for applying international norms of cost and quality to domestic production? At the least this can be used on a limited basis for products chosen as needing the stimulus. This has been done on occasion, but in the mission's opinion, probably not often enough.

4.44 Another difficult administrative problem is how to treat the situation of the same product produced with different costs by different enterprises. The legal and administrative rules at present make no reference to this, though there must be a rationale implicitly. In theory, the homologation formula is presumed to work efficiently, because competition by the lower-cost enterprise prevents the second one from selling at its higher price even if allowed by the formula. This gives less efficient enterprises less profit which, as it should, induces them to improve their productivity. In practice, this may not happen, and collusion may occur because domestic competition is controlled; further, foreign product shortages, plus product heterogeneity (real or perceived) may actually allow sales of "similar" domestic products at different prices. The formula gives them the same per unit profit margin in auto-homologation, or the same 20 percent return on capital under homologation. This result is not economically desirable, of course, as it creates the wrong incentives for productivity. But in the present system, one main objective is to allow all enterprises a "reasonable" return, which is met because price fixing formulas permit high-cost enterprises to charge a price equal to cost plus margin. Other elements of the three-fold price regulation system (para. 4.53) create market conditions sufficiently non-competitive for high-cost enterprises to sell at a higher price.

4.45 Perhaps, the key question of administered prices is how to determine the allowable profit margins to permit adequate returns and hence incentives for production, without allowing for excessive profits. The general answer to this question is probably that no adequate formula exists, and that each new change in formula will result in new difficulties. Homologation which allowed a 20 percent return on equities (perhaps somewhat generous, but with the high opportunity cost of capital for an economy such as Tunisia, not unreasonable) ^{1/}, was probably more reasonable than the present system of auto-homologation with margins of 12 percent to 20 percent on cost. However, because homologation assured a return to an enterprise, which was not a good efficiency incentive, auto-homologation was meant to fix margins by product instead of by enterprise, and competition would presumably drive product prices on the market to the level of the lowest-cost enterprise. In the new auto-homologation formula since 1982, these margins were determined to give, on average, the same return on capital plus coverage of administrative overheads as had existed with homologation. In that case, little was changed

^{41/} The Employment Report (ref. para. 4.36) assumes a shadow price for capital of about 10 percent for the Vith Plan (1982-86); it was estimated at 8 percent for the VIth Plan. Assuming a domestic inflation of 8 to 10 percent p.a., a return on equities of 20 percent gives an after-inflation before taxes return of 10 to 12 percent.

unless more competition were introduced to force high cost enterprises to produce more efficiently. If not, these enterprises could immediately request upward price adjustments based on their actual costs plus the new margins. In fact, competition was probably reduced in this period for as the economic stagnation caused a decline in demand and worsening balance of payments, policies of investment and import licensing restrictions became more restrictive. Profits may have been prevented from going up not so much by applying the price system as by the ad hoc and exogenous policy of "voluntary" price restrictions in 1983. The worsening deficit of public enterprises suggest they were indeed slowed or cut back. Furthermore, one could raise the issue as why margins are fixed once and for all and how one might allow for changes in time as the structure of production changes (degree of capitalization, proportion of raw materials to total costs, etc.). But this issue--like other issues--raises the basic problem of the need for increasing the complexity of the price-fixing procedures.

4.46 Another example of such a basic problem is encountered in the case of indirect costs of production. In the Tunisian procedure, indirect costs are first divided into indirect production costs (supervision, energy) and general administrative overhead (managerial salaries, administrative costs), reflecting a different degree of "indirectness" (Figures 1 and 2, Annex III). Why the line is drawn this way and why the "profit" margin is meant to cover the second category remain unclear to the mission. Apportionment of indirect production costs to individual products is always a problem, and the solution arrived at in the Tunisian system is a reasonable one -- although there is no theoretical or practical reason to be guarantee it is correct.^{42/} In general, such a rule will allocate too much of the indirect costs to labor-intensive products and too little to capital intensive ones. We do not suggested here that the rule be made more precise and the ratio be calculated by product as it would be theoretically correct but impractical. Rather practical considerations always require simplification and this invariably leads to imperfection. The hard part becomes how to make a judgement as to which simplifications are most free of distortions and problems and avoid the risks of arbitrariness, ad hoc arrangements, and uncertainty in the system.

4.47 In conclusion, this brief review of some difficulties created in regulating prices has made clear the two paradoxes of the cost-plus regime in both formula of homologation and auto-homologation. The first paradox is that price regulation works best if there is a greater degree of competition, but a straight regulation system is less justified if there is a greater degree of competition. In brief, neither price formula is fully correct, nor fully wrong; in practice both work best in a fairly competitive environment. The second paradox comes from the constant need to increase the complexity of the price-regulation system. The paradox lies in the fact that additional rules

^{42/} For example, a company making both high voltage transformers and simple electrical switching mechanisms is likely to use relatively little labor with a lot of capital for the first product and the reverse for the second. The apportionment of indirect production costs (heavily based on capital equipment, see Figure IV 1) by using the kj formula may very well overestimate the cost of transformers.

(or changes in rules, or exception to rules) are implemented with good logic to counteract the negative effects once these are recognized (para. 4.18). Two recent examples are the adjustment formula for capacity utilization adjustments and the change to product instead of enterprise margins. But the increased complexity may eventually worsen the situation because new faults are discovered and because the insidious micro-efficiency effects are enhanced rather than diminished as the system becomes more complex.

C. INFLATIONARY EFFECTS

4.48 Any cost-plus price regime has a cost-push inflationary tendency because with costs passed on through prices, there is less incentive to find ways of cutting costs. By this, we mean that cost-plus pricing tends to push upward the absolute level of prices, not that rates of increase are higher.^{43/} But if most products are under the regime, their higher absolute levels of costs get passed on each year, and this add to inflationary tendencies. This effect is further strengthened in an assured domestic market protected against competition. Both cost-plus administered price regimes have the noted characteristics and are likely to be inflationary, though auto-homologation may be more so as a consequence of the profit margin formula, since per unit profit is a proportion of production cost. There is no theoretical reason to think that auto-homologation is less inflationary than homologation, though one might believe the contrary by observing the events of the period 1981-1983 (Table IV 2). Auto-homologation was introduced in 1982, the year of the highest inflation in Tunisia. In the next year, inflation fell back significantly. But the causation link should not be made so easily, for in fact 1983 inflation was held back by a vigorous policy action to roll back prices with government efforts of moral persuasion upon private enterprises, and doubtless even stronger influence upon public ones.^{44/} This policy was applied essentially in an ad hoc fashion and in disregard of the cost formulas. Price adjustment requests were more carefully screened, more likely to be turned down or delayed for technical reasons, or simply in the case of public enterprises, postponed most probably without specific reasons. Inflation indeed was slowed in 1983 but not because of the changes in price regime coverage in 1982. The administrative nature of the price system - and its legal vagueness noted earlier - gave it the flexibility needed to apply general price restrictions.

^{43/} Obviously, a higher absolute level of prices also means a lower standard of living for the consumer who has to pay these prices.

^{44/} Macro policies of slower monetary growth and the slowdown in salary increase from 20 percent in 1982 to 12.2 percent in 1983, have doubtless also contributed considerably to slow down inflationary pressures.

Table IV. 2: INFLATION AND PRICE REGIMES, 1981-1983

(in percentages)

| | 1981 | 1982 | 1983 |
|--|---------|--------|--------|
| <u>Change in CPI</u> (December to December) | 11.3 | 14.4 | 6.0 |
| <u>Coverage of Consumer Goods</u> | | | |
| Homologation | 8.1 | 4.2 | 4.9 |
| Auto-homologation | 0.0 | 24.5 | 25.1 |
| <u>Coverage of Industrial Goods 1/</u> | | | |
| Homologation | (100.0) | (20.0) | (20.0) |
| Auto-homologation | (0.0) | (80.0) | (80.0) |
| <u>Inflation Rate of</u> <u>Consumer Goods under:</u> | | | |
| Homologation | 17.9 | 17.0 | 7.2 |
| Auto-homologation | - | 14.3 | 8.3 |
| CGC goods | 7.1 | 9.0 | 4.0 |
| Utilities | 16.7 | 14.5 | 15.3 |
| Other "taxation" | 10.7 | 16.3 | 4.3 |
| Free prices | 14.8 | 16.4 | 5.6 |

1/ Figures in brackets are approximations from mission estimates

Source: IEQ "Analyse de l'evolution des prix à la Consommation en 1983", 27 Fevrier 1984.

4.49 For the cost-plus price regimes (consumer goods only), inflation rates are not obviously greater or lesser except for products under CGC subsidies, whose prices were clearly much more tightly controlled. As between homologation and auto-homologation in 1982 the former was higher, but in 1983 the reverse was true; further, the differences were not large. What is striking is that both regimes had price increases well in excess of the average, and in 1983 even in excess of the increase for the "free-price" regime. Just how much the cost-plus administered price regime tends to push up costs may be even underestimated by the actual ex-post results shown in Table IV.2, for it is the requested price changes rather than the allowed ones that would better reflect these tendencies. Summary reports for DFC's

activities do not allow analysis of these requests, though this would require in principle relatively simple data, available in each file submitted to DPC.^{45/}

4.50 While the cost-plus systems clearly have inflationary tendencies, the fixed-price system with subsidies can and does slow down inflation, at least in the short term. Thus, it is useful to attempt at calculating approximately how much inflation in this period (even before 1983) was hidden (or delayed) by holding down prices through budgetary subsidies. A crude first approximation of the order of magnitude is by taking the amount of subsidies paid out as a percentage of total consumption expenditures on the products in question. On the one hand, it overestimates hidden inflation because increased prices would reduce demand and temper the inflation effect. On the other hand, it underestimates hidden inflation because, for industrial products which prices are kept down and operating subsidies paid out, the cost-plus system may multiply the effect of an initial inflation shock.^{46/} Subsidies for consumer goods allowing prices to be kept fixed or to increase less than cost pressures dictate, are really a manifestation of underlying inflation, and the value of such subsidies can be used to make a rough estimate of hidden inflation (Table IV 3). Essentially it is a partial equilibrium approach which recognizes that supply and demand elasticity reactions temper the price inflation effect; it is assumed here for simplicity (Figure 5, Annex III), that the supply and demand elasticities are equal. With only direct food subsidies as committed by the CGC budget (and the calculation is conservative because subsidies for fertilizers and sugar are excluded), the result, shown as Hypothesis 1 in Table IV 3, is a suppressed inflation of about 2.3 percent p.a. in 1982 and 1983, and slightly higher at 2.7 percent in 1984, compared to the actual inflation of 14.4, 6.0 percent, and 7.2 percent respectively. In fact this may even underestimate hidden inflation, because subsidies extend beyond those paid directly for food. There are indirect food subsidies through fertilizers and operating subsidies to public enterprises operating at a loss, in general mainly because of inefficiency and partly in 1983 because suppressed prices increase requests; even the subsidies for capital as well as participations may be similar to current operating subsidies. Hypothesis 2 does not however include all of these subsidies (for comparison in 1983 these were nearly twice the figure in Table IV 3). The high case hypothesis adds together CGC subsidies and other current subsidies exclusive of pure transfers and gives resulting estimates of suppressed inflation that are considerably higher, at 5.5, 5.2 and 7.2 percent respectively. While these

^{45/} The mission had only time to look closely at the files concerning batteries and transformers (See Annex II). The requested increases -- for prices unchanged since 1980 -- averaged over 50 percent, while inflation over the period had been 30 to 35 percent. To investigate more thoroughly the cost-push inflationary tendency of the regime would require that a large sample of files be analyzed.

^{46/} A recent study of the IEQ estimates, using the Input-Output Table, that a 10 percent increase in prices of locally produced products has the effect of a 15 percent increase in the consumption price index. See H. Bousselmi, *Impact des variations des couts sur les prix a la production et à la consommation*" IEQ/MB/840310.

Table IV 3: NOTIONAL ESTIMATE OF HIDDEN INFLATION 1/

| | <u>1982</u> | <u>1983</u> | <u>1984(est)</u> |
|---|-------------|-------------|------------------|
| Consumer Inflation (% p.a.) | 14.4 | 6.0 | 7.2 |
| Consumption, (TD current million) | 2995 | 3438 | 3880 |
| <u>Relevant Subsidies (TD million)</u> | | | |
| Hyp. 1: Food Subs. Only | 137 | 153 | 210 |
| Hyp. 2: All Current Sub. excl. transfers | 332 | 357 | 558 |
| <u>Estimated Hidden Inflation (% p.a.)</u> | | | |
| Hyp. 1 | 2.3 | 2.3 | 2.7 |
| Hyp. 2 | 5.5 | 5.2 | 7.2 |

1/ Based on the formula: Hidden consumer price inflation = 1/2
(Subsidies/Consumption) X 100%; see Figure 5
in Annex III for more details.

Source: Consumption and Hypothesis 2 subsidies from Volume I of this Report; Hyp 1 subsidies, see Table III 1 this Report.

estimates are only approximate (not all general equilibrium effects are included), there are several factors that may bias it downward, hence there is good reason to believe that subsidies have probably hidden or delayed inflation in the years 1982-83 by an amount of 2 to 5 percent p.a.. The converse of this is an expression of the cost of suppressed inflation: keeping inflation down in the early eighties by 2-5 percent annually has cost public finances between about DT 130 to 350 million p.a.

4.51 Keeping inflation down with subsidy payments may only delay it if the true cost structure is permanently changed and if subsidies cannot be continued in the long run. Counter to this, it is conceivable that some inflation can be suppressed if the suppression of price increase in the short run successfully reduces demand for wage increase and thus, weakens the effects of the wage-price spiral. But, if the institutional links of wages and prices (and productivity) are not addressed in the long run, inflationary effects will be restored as soon as subsidies are cut back (as they must be eventually).

4.52 A detailed microlevel investigation of the effects of the price regimes would be needed to measure the sort of implications identified in the previous paragraphs and their magnitude. This fairly substantial task was not part of the mission's objectives. However, with the limited objective of an illustrative analysis, the mission reviewed two industrial products (transformers and batteries). The mission's experience in handling these two products is presented in Annex II. It includes practical suggestions on how to apply the legal price-fixing regimes. This Annex should be read as a partial assessment of the extreme difficulties faced by pricing authorities in applying the type of analysis and control required by the legal price-fixing regimes. In no way, is this Annex an appraisal, or even an attempt, on the efficiency of the administration operations. The point is totally different. The mission is convinced that such an exercise is absolutely needed at a time the Government is embarked in sweeping reforms of most of its economic policies. By pursuing a similar exercise as the mission did, the price administration will be in a much stronger position to review the price system in order to make it better targeted and more efficiently applied. Some of the recommendations suggested in this volume reflect the lessons drawn by the mission from its attempt to review the determination mechanisms of prices for these two products.

D. THE RELATION TO IMPORT AND COMPETITION POLICIES

4.53 Concerning the three-fold nature of the price regulation system combining import controls, competition restrictions and domestic price regulation, already described in broad terms in Chapter II and in a theoretical interpretation in Section B of this Chapter, we will here focus on three issues: the need for a better empirical knowledge about the degree of internal competition and the impact of domestic administrative procedures in different product markets; the strong evidence from the effective protection study on EMIs about the economic cost of distortions; and the policy problem of how to liberalize this restrictive threefold policy nexus given the constraint of worsening balance of payments.

1. The Structure of Industries

4.54 Import restrictions (which IMF estimates to cover about 75 percent of imports) plus the Administration hesitation to issue new investment licenses create an uncompetitive market structure with a tendency to shelter inefficient producers. Price regulation at the same time is a substitute for competitive forces (external or internal) and together with the other two regulations a tool of protection for inefficient domestic producers. This is achieved by verifying or controlling these costs to prevent excesses and by limiting allowable profits, and by allowing producers "fair" costs plus a "fair" profit. The preceding sections of this chapter have discussed the reasons why price regulation of industrial goods is not effective in theory or practice and can cause a lot of economic inefficiency. Here we turn to the question posed in para. 4.22: in what products or sectors is price regulation justified at all, and where it is possibly superfluous if not actually harmful?

4.55 If protection can ever be justified for certain industries by the argument that temporary shelter will generate rapid gains in productivity, and if further the industry is by nature one with significant scale economies

precluding a large number of producers for the local market, then regulation of prices may be justified. But to make this judgment in an informed way it is important to have better knowledge and more systematic measures of economic efficiency and the competitive market structure of different branches in the economy. Relative efficiency of production can be measured by such economic indicators as domestic resource costs (DRC) and effective rate of protection (ERP). Other measures include common efficiency ratios such as labor productivity unit costs, etc., often calculated by industrial production experts. For DRC and ERP measures, knowledge is just beginning with the Bach Hamba Institute's studies of protection, which should provide a picture of which industries are sheltered in what degree and which ones are efficient. One should be extremely careful in using such evidence and consider that the way in which one may best promote potentially efficient industries is not necessarily by "picking the winners" and giving them protection. The broader issue of efficient import substitution and export promotion is not elaborated on here and should be addressed in future studies. The relevant point here is that only potentially efficient industries should even be considered for temporary shelter from external competition, and in the event, if they are by nature subject to scale economies this may require regulation to counter oligopoly tendencies. Although as para. 4.33 concludes, marginal cost pricing based on world prices is a better mechanism of price regulation than the current average cost controls.

4.56 The second condition justifying price regulations because of market structure or degree of competition, is not well documented in Tunisia even though the information is basically much simpler (number of firms, concentration ratios). More effort should be made to systematize this information to help discuss pricing, competition, and protection policies. Industries that are found to be more competitive (and the present informal rule that three or more firms define a competitive industry is not adequate) might be early candidates for reduction of price regulation. Since price regulation is a substitute for competition, it would be less needed in an industry that is competitive.

4.57 Such an analysis is likely to find in Tunisia that most industries are oligopolistic. Before concluding price regulation is required, the other two components of the price system should be considered. If the lack of competition is because of restricted investment licensing, that in itself is a sign the industry is potentially a competitive one, and freer entry rather than price regulation may be the answer. If relatively free entry has been allowed and the industry is nevertheless concentrated because of natural scale economy effects, it still is not self-evident that price regulation is needed because, returning to the threefold nature of the price system, external competition may be used as a regulator. Relative efficiency indicators need to be considered jointly with measures of market structure; if the industry is sheltered but produces at relatively low cost (low DRC) it does not need the shelter; if it is sheltered and produces at very high DRC, it probably does not deserve the shelter. Only industries that are above but close to world price levels are potentially justifiable "infants" needing shelter and possibly requiring regulation, if the domestic competitive situation is inadequate to curb oligopolistic tendencies and if more liberalized imports are in the short-run unfeasible.

2. The Cost of Distorted Incentives in EMIs

4.58 The study of effective protection in the electrical and mechanical industries (EMIs) ^{47/} reveals the widespread nature of distorted incentives to production from the combined effect of import barriers (tariffs and restrictions), restricted competition, and assured profits provided by the price-regulation system. The study shows that there exists a high level of effective protection averaging 41 percent for the sector, and as high as 100 percent to 200 percent for some branches. Further, bias is very strong against export with effective protection for export production being generally zero or negative, and very high for domestic production, 100 percent to 200 percent and even more. Yet quite a few branches, products, or enterprises emerge which produce efficiently with DRC values of 1.0 or much lower. Clearly the industry has large potential. Most often, exported products show the highest efficiency, despite the low or negative protection.

4.59 The economic-social cost of the distorted incentives causes resource misallocation and rent-seeking inefficiency. Too many resources are in activities with high protection and low efficiency, and too few in activities with high efficiency. In the near future, it should be possible to quantify the economic cost of such misallocation ^{48/} using a general equilibrium model. But it is possible before then to make a rough approximation of this cost for EMI's only, using the DRC values and partial equilibrium analysis, as described in Appendix 1, Annex III to give an idea of the order of magnitude. If one assumes that half of the resources currently used by inefficient activities (DRC \geq 1.0) can either be switched to efficient activities (DRC $<$ 1.0) as a result of changing the incentive structure or these resources can be used efficiently (DRC = 1.0) in the same activity, then we estimate that value added in the entire EMI sector could be 26 percent higher. This is without adding any new resources to the EMI sector, but only reallocating existing resources within the sector or removing micro inefficiency by changing incentives. While this crude estimate may be optimistic by assuming as much as half of inefficient resources can be switched to optimal efficiency (DRC = 1.0), it underestimates in two ways. Some activities are highly efficient (DRC $<$ 1) but it is not assumed in this calculation that all resources will become as productive. Also, no new resources are assumed to be added though they are quite likely to be with improved incentives, more exports and efficient import-substitution, and so on. Especially this would occur for labour if not capital. Hence gains could be even greater than estimated.

^{47/} See Protection, Incitations et Prix dans le secteur des IME en 1980, Volume II, published by Institute Ali Bach Hamba (IEQ), May 1983.

^{48/} Beyond resource allocation inefficiencies, a distorted system of incentives may generate micro-inefficiencies, or X-inefficiency. Thus, even a good general equilibrium estimate of distortion costs may be too low, missing the X-efficiency effects (para. 4.37).

3. Liberalizing Imports

4.60 The preceding calculation and its attendant assumption that the distortions in the incentive structure are reduced and anti-export bias removed, are directly pertinent to the policy of liberalizing imports in the face of growing balance of payments pressures. If liberalizing imports meant only a reduction of some import tariffs and restrictions, then no doubt the balance of payments situation would be exacerbated. The proper policy is to promote a reduction of import barriers (and anti-export bias) to achieve a balance of the incentives, reducing and evening out the large disparities of effective protection rates across activities. Such a co-ordinated policy would first induce some of the potentially efficient import substitute industries to meet world competition.^{49/} Secondly, and probably more important, various export promotion incentives would generate new export revenues to close the balance of payments gap.

4.61. Additional impetus to efficiency can be given by coordinating the trade policy liberalization with changes in the investment licensing and domestic price regulation. Since these three components of a broad pricing policy work together and result in the diverse negative effects discussed throughout this volume, they must of course be modified in a co-ordinated fashion in any liberalizing steps. "Liberalizing" one element at a time would no doubt cause many problems, a typical case of "second-best" problems as described in Chapter I. Liberalizing the restrictiveness of investment licensing policy will give an element of competitive stimulus and help increase the efficiency of Tunisian producers - both exporters and those producing for the domestic market. Similarly, liberalizing the price regulation may, by removing the various disincentives (cost inflation, over-capitalization, etc.) lead to some improvements in efficiency. Indeed, to the extent these policy liberalization can increase efficiency of domestic producers, this will mitigate the worsening balance of payments tendency coming from import liberalization. All this needs to be balanced and coordinated carefully and applied gradually.

^{49/} An earlier Bank reports finds that some potential remains for import substitution, but not a great deal; see Review of the Electrical and Mechanical Industries, No. 2666-TUN, dated June 4, 1980.

CHAPTER V: PUBLIC UTILITIES AND SOCIAL SERVICES

A. OVERVIEW OF SUBSIDY COSTS AND TARIFF-SETTING PROCEDURES

5.1 In any economy certain services of a public nature are impossible to "price" in the sense of collecting a fee or cost from each user according to the amount the user consumes. This is because the technical characteristics of some services make attribution of cost by user impossible or highly impractical. Such is the case to a large degree for the following goods or services: public parks and open recreation spaces; public byways, especially in cities (roads and sidewalks); street lighting; storm sewers (as opposed to house connections like sewers); flood control works; and police and judicial services. The line between such goods - pure "collective goods" as they are called in economic theory - and goods for which fees can be collected is not a clear one; for example gasoline and vehicle taxes are a means of charging "fees" even for urban roads; and some recreation areas can be closed off and admission charged. In practice, many public services in all countries are offered free of charge even though they could be priced; zoological parks, sports complexes, beaches, public recreation grounds in forests and mountains. This can often be economically justified on one of two grounds: the likely market price would be so small that net revenues (after collection costs) would be minimal; or the service generates such an important social and economic externality that it justifies a zero market price. The two combined are probably adequate explanation for such things as free entry to urban parks, recreation areas, zoological parks, botanical gardens and so on - at least in a country with Tunisia's average per capita income. There is no indication that the financial cost of such collective good activities is a large burden.

5.2 Problems, however, do occur in categories of goods and services which are not "collective" in the technical nature, but for which public provision of services is the norm and in which prices are often well below cost. It is useful to contrast these services with "pure collective good" categories not because the two are inherently similar, but because they are often, mistakenly, perceived to be similar. A variety of infrastructural services are provided in Tunisia - as in many countries, developed and developing - largely by public entities and at below-cost pricing. This includes electricity, water and sewage in urban areas, rail and urban transport, postal and telephone services, and health and education services - the last two almost entirely free. These are traditionally thought of as "public goods," but they should be considered as quite distinct from "pure collective goods." These traditionally "public good" sectors do not for any technical reason have to price below cost fees, nor do they have to be state-owned. The underpricing can only be justified by demonstrating (not necessarily quantitatively) that these activities generate substantial economic spill-over or externality effects, or have a large social value. As to state ownership, there is no automatic economic rationale for it, except that if the goods are natural monopolies (which most are) and administrative regulation of a privately owned entity would be required, it may be simpler to have state ownership. Beyond this every society will make its philosophical valuations and may, for non-economic reasons, opt for state ownership, but that would not change a good into a "collective good".

5.3. Of the major public activities in the public good category, education and health services are the overwhelming ones in terms of cost (Table V 1), but of course they are areas, especially in health services in which both economic and social externalities can be quite large. Some savings could be achieved by application of user-fees; for in both activities, arguments can be made for quite concrete reforms of "tariff-setting" to generate some revenues.^{50/} Nevertheless, it is unlikely that the public cost of these two items can be reduced substantially in the near future.

Table V. 1: MAJOR PUBLIC SERVICES AND APPROXIMATE SUBSIDY COSTS
(in TD current million)

| | Financial Subsidy | Economic Subsidy | Capital Contributions |
|--|----------------------|---------------------|--------------------------|
| <u>Public Utilities</u> | | | |
| Electricity (1983) | 5 ^{2/} | 15-20 | - |
| Water & Sewage (1982) | 0? | + | 18 |
| Railroads (1982) | 25 | 25+ | 45 |
| Urban Transit (1984) | 3-4 | 8-10 | 1-2 |
| <u>Social Services</u> | | | |
| Education (1983) ^{1/} | 200 | 250 | 50 |
| Health (1983) ^{1/} | 150 | 150 | ? |
| <u>Memorandum Item</u> | | | |
| Total Government Current Deficit (1983) | 330 | - | - |

^{1/} In the case of education and health revenues are essentially non-existent hence the entire amount of expenditure is like a subsidy.

^{2/} Government's participation for rural electrification.

Sources: Bank documents and Mission estimates, it is to be noted these are very rough approximations.

5.4 A recent Bank study on health studied the limited attempts to charge partial fees and the fee structure differentiated by income group. It noted the problems of this system and concluded that it would be improved and increased fees were recommended. No similar system exists in education, but in the future some degree of cost-recovery should be instituted, starting in particular at higher levels of education which benefit higher income households disproportionately. The mission supports this objective, in particular in view of the prospects for budgetary tightening (see Volume 1); it recommends that the feasibility of

^{50/} Studies are in progress for education and health financing.

increased cost-recovery in health and education be studied, recognizing that this is likely to be only partial cost-recovery.^{51/}

5.5 For public utilities other than railroads, subsidy costs do not appear to be large, in comparison to CGC items. While the magnitude of these subsidies clearly is not enough to cause great concern, the relevant Bank reports consider that there is room for savings and also a need for attention as the cost-revenue gap has tended to worsen rapidly since 1980. For railroads the situation is already quite severe, its TD 28 million operating subsidy being comparable to some CGC items.^{52/} All indications for the future are for a worsening of this deficit. Further, the level of subsidy may be underestimated by considering only operating subsidies, for government funds are also used to contribute to capital expenditures. By 1983 the total of these two for railroads was about TD 70 million.

5.6 Capital equipment contributions raise a question as to whether they are "subsidies" in the same sense as operating subsidies, or whether they are to be regarded as investments in future socially productive capacity. Most public agencies have been receiving such contributions, and the problem is a growing one. The issue is most clearly understood in the context of social cost-benefit analysis. If the investment to which the Central Budget is contributing renders a social benefit exceeding the cost, then the contribution is socially justifiable. There need not be full financial revenue equal to the social benefit, nor any formal "participation" shares held by the government in the entity or public enterprise. As long as the social benefits exceed the costs all the financial pluses and minuses are unimportant for they are merely transfers. In practice two concerns arise. First, the administration may too easily undertake such support for investment on the general grounds that the enterprise will in future generate enough revenues (or social externalities in the case of electricity, railroads, etc) to justify the contribution. But only a thorough social cost-benefit evaluation can be the basis of such a judgement. A second concern is that, in the case of an ex ante presumption of a positive economic externality an expectation is created that viable financial operations will not occur and financial losses are inevitable. This may be a self-fulfilling prophecy for the enterprise will have less incentive to be cost efficient. For these reasons capital contributions (or share participations) should not be taken lightly but should be closely analyzed and justified by social cost-benefit analysis.

5.7. The economic cost of subsidies (valued at shadow prices) may exceed the financial cost (Table V-1). Though this could not easily be estimated except for the case of electricity (para. 5.11), the economic cost probably exceeds

^{51/} A review of the methodological approaches and issues concerning cost-recovery in social sectors can be found in Nancy Birdsall, "Strategy for Analyzing Effects of User Charges in Social Sectors", World Bank, CPD Discussion Paper, No. 1983-9.

^{52/} See the Bank Report "Tunisia: Transportation Sector Memorandum, No., dated"

the financial one for at least one reason. All utilities are heavy users of fuels which are generally priced below shadow prices ^{53/}. In the case of electricity the effect is substantial because a large portion of STEG's energy inputs is provided at either an almost zero-price (El Borma gas) or highly subsidized tariff (fuel oil). It is recommended that in the analysis of each public utility economic costs of subsidies should be evaluated as well as financial costs - where possible.

5.8 The procedures for setting tariffs in public utilities and services are described briefly in para. 2.7. For social services, there are essentially no fees, save for relatively small payments for medical services. For utilities, the broad picture is probably one of moderate underpricing relative to total costs inclusive of capital, and substantial underpricing for railroads where revenues do not even cover operating costs. Electricity, water, and sewage tariffs (under the monopoly of STEG, SONEDE, and ONAS) cover not only operating costs but include some portion of financial costs for future capacity expansion; this point is elaborated in par. 5.15. In the case of STEG which the Mission reviewed more closely as a case study for this Report (Section B) the basis for determining prices involves quite detailed calculations of long-run marginal costs. For SONEDE and ONAS, according to sectoral Bank reports, similar calculations are made. Tariff calculations are made on the basis of projected cashflow requirements of the next year to determine the arithmetic mean of the new proposed tariff. As tariffs are in progressive blocks, the highest block is chosen near the long-term marginal cost. A general problem that applies to all utilities (including urban transit) is insufficient discrimination in tariff-levels by city users according to cost differences. Cross-subsidization therefore is widespread. As the World Bank's Transport Sector Survey (Ref. para. 5.5) notes, this policy should be reviewed, and if local cost differences justify higher tariffs as for example urban transit in Sousse, these should be gradually implemented. In general regulation of utilities is done by different ministries or government bodies for each utility. While the technical expertise needed differs for each type of service, the economic and social issues which underlie under-pricing are common to all, and there may be some potential benefits if a regulatory body centralizes and coordinates all public service tariff setting. As an illustration of some of these economic and social issues involved in utility tariff setting, the remainder of Chapter V focuses on electricity. The STEG's procedures and tariff policies being done in the World Bank's review of power projects, this report considers instead some of the non-technical aspects that are common to all public-service tariff setting.

5.9 In this context, the greatest complexity arises, not at the purely technical level, but when the social objectives and economic externality effects are necessarily considered in a non-quantitative fashion and in ad hoc ways subject to errors and political arbitrariness. The Mission suggests first that for utilities and infrastructure services, any adjustments to the technical cost-calculations made outside the agency in question, should be more explicitly rationalized and as much as possible quantified before any modifications are decided, and second that this be the responsibility not of the producing agency but of the appropriate Ministries. This does not mean

^{53/} See, Tunisia, Special Economic Report: A Macroeconomic Analysis of Oil and Gas Policies, No. 4752-TUN, January 1984.

that the operating agency's proposal should simply be accepted, without modification, for two reasons. First, the responsibility of the operating agencies should be limited to achieving operations that are efficient technically and viable financially, while any social-economic objectives should be analyzed and pricing decisions finalized by independent units in the Administration. Second, utilities frequently are natural monopolies, hence they will need regulation even if publicly owned, for lack of competition creates the risks of micro-inefficiencies.

5.10 More generally, the mission suggests setting up a working group on Public utility pricing and regulation with an initial mandate to review all public utilities, financing procedures and establish guidelines on pricing (cost formulas or principles such as marginal cost pricing), as well as administrative procedures for consideration of price proposals by operating agencies. Because the fundamental problems of many public enterprises and of natural monopolies is similar (efficiency controls, externality effects, marginal cost vs. average cost pricing issues, financing of new capacity), it may be more useful to have these tasks coordinated, and such a committee may thus become permanent. In as much as control functions are already performed by existing staff in various ministries, it would not be necessary to expand administrative staffing, only to coordinate the policies. A big benefit of this might be making more explicit (and publicly) and better coordinated both the principles and the practice of public utility regulations. "Regulation" here means not only the task of verifying and controlling the costs and proposed tariff of the operating agency, but also providing the analysis to justify any deviation in tariff from economic cost on the basis of social objectives or economic externalities. It is simply a matter of making more explicit and transparent the process of price-setting in activities where market prices are not deemed to reflect accurately social opportunity costs.

B. ELECTRICITY TARIFF SETTING

5.11 Electricity tariffs are set at a level that requires an explicit financial subsidy to STEG (Table V.1); but there is an implicit subsidy of about TD 15-20 million ^{54/} when a full economic evaluation is done. While tariffs are high enough to cover actual operating costs plus most of the financing of new capacity, the economic cost of energy inputs is well above the financial cost that STEG has to pay. Though this indirect subsidy is not nearly as high as for railroads, the mission considered this case an appropriate one to analyze in more depth as an illustration of pricing policy issues for utilities. Because electricity costing is technically complex, an evaluation of whether the specific level of tariff is or is not correct requires technical expertise. A detailed review of pricing in relation to long run marginal cost of electricity supply at different voltage levels is included in confirmation with the Power IV project. This Mission; hence, we consider instead some of the broader issues: the procedures in making tariff decisions; the rationale of long-run marginal cost (covering future capacity); the argument of externalities; the mechanism of financing expansion; and finally the consideration of social objectives in tariff setting. It has been noted that recent tendencies reduce considerably the implicit subsidy as fuel prices are rising. Also, depletion of El Borma gas used by STEG will substantially reduce the remaining implicit subsidy.

^{54/} Estimates done for a project appraisal report by Bank staff. See Tunisia, Fourth Power Project (N. 4817-TUN, dated June 4, 1984).

1. Procedure for Calculating and Changing Tariffs

5.12 When STEG considers that tariffs should be increased or the structure revised, it will first consult with the Ministry of National Economy (MEN) about the feasibility of any changes. In recent years this has been considered "feasible" for two or three reasons. Costs have increased with inflation, policy attitude has favored some movement towards economic pricing, and finally STEG has consistently tried to press its view that the internal structure of tariffs needs to better reflect short-run marginal cost differences. An instance of this latter is STEG's requests for peak-load pricing of low-tension electricity (generally households), instead of the present system of a single price which incites excessive peak-load usage.^{55/} When a change in tariff is accepted, in principle, a detailed cost-study is prepared with proposed prices and justification. The Mission's assessment is certainly that the procedure and resulting technical analysis is thorough, and the technical information provided permits a good evaluation of the economic and technical merits of the proposed tariff levels. For illustration, Table 5, Annex III reproduces the actual tariffs and those proposed in the June 1983 study of the STEG pricing office. What STEG proposes is first reviewed by experts and then considered at the policy-making level of MEN, then by an Inter-Ministerial Committee and eventually the Council of Ministers for ratification and publication in the Journal Officiel. At these higher levels, the social objectives are considered: low prices for poor consumers; economic spill-over or externality effects (low prices to stimulate agricultural modernization, help key industries such as phosphate and cement). As for micro-inefficiency there appears to be no major evidence of acute problems for STEG (ref. para. 5.11). In the case of STEG, this task is performed by the Directorate of Energy in MEN. What is not apparently done is sufficient analysis justifying departure of actual tariffs from the financial (or economic) costs as calculated at the operating level. One problem is that the arguments to modify the tariffs proposed by STEG are not always spelled out clearly and there is no one forum for policy discussions on tariffs.

2. The Principle of Long-Run Marginal Cost Pricing

5.13 The basic pricing principle is long-run marginal cost (LRMC) pricing which includes operating costs (dominated by fuels as the bulk of capacity is thermal) plus amortization costs of extra new capacity.^{56/} Since electricity capacity must meet peak-loads, and current capacity does, however, provide some excess 32% above peak-load demand, the marginal cost of one additional kwh demanded in the long-run is the cost of future capacity. This procedure provides for financing STEG future capacity, since the actual operating cost per present unit of electricity is below the LRMC. This is not only because large capacity increases are needed (and planned) but also because the average cost of energy inputs to STEG has been very low (about TD 12 per ton).

^{55/} STEG, Etude Tarifaire, Juin 1983, p.16

^{56/} A review of the methodological approaches and issues concerning LRMC calculation can be found in Mohan Munasinghe and Jeremy J. Warford, "Electricity Pricing, Theory and Case Studies", a World Bank publication by John Hopkins University Press 1982.

5.14 In fact, actual tariffs are set lower than the calculated LRMC, but there is still a net financial flow to STEG which provides partial financing of future capacity. The current cost of fuel is well below even the Tunisian market price (TD 80/Ton), which in turn is lower than the world price (TD 118/Ton). STEG has free access to the gas from the El Borma field and pays only for its transport. As it furthermore sells about 25 percent of this, it in effect receives an implicit subsidy estimated at TD 15-20 Million. This provides STEG with a financial cash flow, which covers not only current operating costs but also 12% of its financing. As noted earlier, depletion of El Borma gas will substantially reduce any implicit subsidy.

3. Financing Issues

5.15 Actual tariffs, even though they provide for a cash flow to STEG covering its current operating costs and partial long-term financing, are too low relative to economic long-run marginal costs. The latter, which use future fuel costs at world prices, are substantially higher. For example, 34 to 116 millimes/kwh. compared to about 32 to 61 millimes/kwh. for low tension; somewhat smaller proportional differences apply to medium and high tension (Source: STEG, Etude tarifaire, para. 5.12). The nature of the primary mechanism in the STEG—as well as in the SONEDE and ONAS—is meant, in principle, to provide not only for coverage of operating costs but also to generate cashflow for financing of future capacity. In practice, STEG tariffs provide a positive, but by no means complete coverage of future financing. For SONEDE and ONAS the contribution is quite minimal.

5.16 While this form of financing may be a viable and simple one, in particular when tariff rates move up to close the gap between present levels and estimated LRMC, it may be useful to consider gradual moving in the direction of financing via open-market bond issues for utilities. The advantage of this approach is that it makes more explicit the capital costs and instills the discipline of applying true opportunity costs in tariff calculations. It has of course the added advantage for broader aspects of financial deepening in the economy, providing some of the experiences in such financial market instruments. There is no doubt of course that long-run concentration in financial market sophistication needs to be aimed at but it is difficult if not impossible to start by general government bond issues. An easier and more realistic first step would be utility bonds for new capacity of relatively well-regarded agencies such as the STEG.

5.17 Thus, the mission recommends that consideration be given (by the working group recommended in 5.10 above) to bond issues in some medium-term horizon, as a way of supporting financing of new utility capacity. Perhaps a feasible first step would be in the context of some of the new large tourist-development projects financed by consortium capital pools (see Volume I). A part of the financing package could be the issue of STEG or SONEDE/ONAS bonds covering any new facilities required by the project, and purchased by the investors in the entire project.

4. Other Social Objectives for Electricity Tariffs

5.18. In addition to the general externality arguments for making prices diverged from marginal cost, differential tariffs are practiced with the objective of meeting specific social and economic objectives. These major groups of users are, or have been in the past, the intended object of favoured treatment in electricity tariffs: households with small usage (presumably low income households); small agricultural users; and big industrial establishments, generally public enterprises. Closer investigation of such pricing policies suggests that the objectives are not supported by adequate prior analysis justifying the use of a price-discrimination tool but are rather more ad hoc decisions often imposed on STEG. As a consequence, the actual tariff structure is not altogether consistent in achieving such objectives.

5.19. In earlier years, for small, 'low-income users, low-voltage users (households largely) faced a regressive tariff structure with lower rates for higher usage, clearly favouring higher income households. A uniform rate of 61 millimes/kwh is now applied and provides relative cross-subsidization to lower-quantity users with redistributive effect. But a contrary effect results from the lower tariffs applied to water-heaters, heating and air-conditioning--items disproportionately found in high-income households. Redistributive effects are impossible to calculate as there is no information on the level of usage by income of households. Indeed, the lack of such information means the "social pricing" decisions cannot possibly be founded on thorough analysis.

5.20. A further problem with such social-pricing comes from: its economic cost. STEG considers that peak-hour costs are about 100 millimes, hence the 61 millimes tariff encourages excess use. A progressive tariff could replace the uniform one and strengthen the redistributive effect. STEG is proposing as an alternative to peak-load pricing, to eliminate the low special rates for the heating and air-conditioning, and to increase rates for water-heaters to encourage solar heating. As far as redistribution is concerned, STEG considers that electricity tariff discrimination is not a good tool to achieve social objectives: low-income users might instead be subsidized directly through a percentage reduction of the electricity bill, covered by the Administration. While such direct targeting is appealing, the Mission would not consider electricity to be in the list of key fixed-price goods requiring government intervention (para. 3.20).

5.21. It is conceivable to combine peak-load pricing with a progressive tariff, and better achieve a balance between economic efficiency and social objectives. But whether this is worthwhile cannot be judged without better knowledge of just how the level of electricity use correlates with level of income and some analysis of the possible incidence of a progressive tariff.^{57/} This simply brings one back to the view that a deviation from economic efficiency cost pricing needs to be justified by quantitative and

^{57/} There is also the matter of hourly monitoring equipment and the initial cost of changing to peak-load pricing.

qualitative analysis of how social objectives are met by such pricing policies (para. 5.9). If one is to use prices as a tool for various social objectives in electricity (and other utility), better justification is needed than has in general been provided.

5.22. In the case of agriculture, the redistributive effects cannot be readily calculated without the relation between income and electrical usage. However, here at least the tariffs favouring small agricultural users (low-tension) is more consistent than in the case of households. Low-tension users (small agricultural units) not only pay lower prices than medium-tension users (larger units), but the implicit economic subsidy relative to marginal cost is proportionately greater (Table V-2). Given the overall need to improve agricultural terms of trade, this tariff structure is at least qualitatively pushing in the right direction.

Table V.2: ELECTRICITY TARIFFS FOR AGRICULTURAL USE

| | Medium Tension | | Low Tension | |
|-------|----------------|-----------------------|-------------|-----------------------|
| | Mill./kwh | As % of "Ideal Price" | Mill./kwh | As % of "Ideal Price" |
| DAY | 35 | 77% | 32 | 68% |
| NIGHT | 26 | 79% | 22 | 64% |
| PEAK | cut-off | --- | cut-off | --- |

Source: Table 5, Annex VII, "Ideal" prices as estimated by STEG to approximate IRMC.

5.23. In earlier years strong implicit subsidization of large industrial enterprises occurred in the form of special (lower) tariffs. A half-dozen large public enterprises in phosphates, cement and steel were the major beneficiaries of this policy, which clearly had little economic justification, for it simply covered up operation losses that, if socially justified, should have been more directly covered, or if not justified, otherwise resolved. In the last three years, this special concession has been reduced, which renders a greater rationality to the electricity tariff structure. But any remaining divergence from marginal cost--as described in earlier paragraphs--should be reviewed more closely, not necessarily to remove them, but rather to make sure that they are justified. If they cannot be justified, they, too, should be eliminated.

TUNISIA

WHEAT, BEEF, AND MILK PRICING

Background

A. Background

1. The Tunisian system of administered agricultural prices has been extensively analyzed in recent Bank reports, particularly in the 1982 Agricultural Sector Survey (Report No. 3876-TUN). On the basis of 1980 data on output and input prices, subsidies and taxes and on the prevailing rate of exchange, the Survey concluded that: (a) agricultural producer fixed prices (see Chapter III) were in most cases below both world prices and free-market prices; (b) all tradable agricultural products had been penalized by the over-valuation of the Tunisian dinar, roughly estimated at 15 to 25%; and (c) farm input subsidies benefitted only a minority of farmers and were insufficient to offset the impact of below-market product prices except for irrigated fruits and vegetables, where prices were generally free, and for industrial poultry and milk production systems which were making heavy use of feed concentrates.

2. On the basis of incentives (prices, taxes and subsidies) and technologies prevailing in 1980, the Survey found that wheat, both durum and tender, and beef were heavily penalized, while milk received practically neutral treatment under most technologies except for the industrial system with irrigation and high concentrate use, which appeared heavily protected. The Survey noted, however, that producer prices had been increased considerably after 1980 and that the different coefficients should be updated periodically.

3. A second set of major issues concerning wheat, beef and milk pricing centers on the growing burden of budgetary subsidies paid through the Stabilization Fund (CGC) (Table III-1 in the main text). The bulk of these subsidies accrue from sales of wheat to flour millers by the Cereals Authority (Offices des Céréales, OC) at below acquisition prices, and from direct payments to bread and pasta bakers to cover the difference between production costs and fixed consumer prices. Less significant quantitatively is the meat subsidy, paid to the parastatal enterprise--Société Ellouhoum--to cover the difference between the costs of importing and procuring locally cattle and meat and the fixed sale prices to butchers; and the milk subsidy paid two milk processing parastatals to cover the differences between production costs and fixed consumer price of milk (Table 1).

4. The purpose of this annex is to trace the evolution of commodity price policies in recent years and to analyze the structure of subsidy payments. Recent rapid increase in these subsidies is seriously aggravating budgetary deficits (Volume I). An attempt to alleviate the mounting burden by doubling consumer prices of wheat flour products in December 1983 provoked serious disturbances that obliged the Government to rescind the price increases. A closer look at the structure of existing subsidies is therefore warranted to identify anomalies that could be corrected, thereby lowering subsidy outlays without unduly raising consumer prices.

Table 1: WHEAT, BEEF AND MILK SUBSIDIES, 1981 AND 1983 1/
(in TD million)

| | <u>1981</u> | <u>1983</u> |
|----------------------|-------------|-------------|
| <u>Wheat Subsidy</u> | | |
| Sales to Millers: | | |
| Durum | 17.6 | 34.5 |
| Tender | 13.5 | 30.5 |
| Bread bakers | 12.7 | 36.0 |
| Pasta bakers | <u>0.7</u> | <u>8.0</u> |
| Subtotal | 44.5 | 109.0 |
| <u>Beef Subsidy</u> | 6.5 | 12.6 |
| <u>Milk Subsidy</u> | <u>3.0</u> | <u>7.5</u> |
| Total | 54.0 | 129.1 |

1/ These figures are not directly comparable to those in Table III-1 of the main text, where they are appropriations and not actual expenditures.

Source: CGC

B. Incentive Policies

5. Wheat. The Price Commission in charge of preparing the VIth Plan concluded that during the decade of the 1970s input prices for cereal production had increased by 150% while producer prices had increased by only 80%. The deterioration of cereal output/input prices was largely stopped after 1980 (Table 2).

6. Wheat prices have, by and large, been raised in step with input prices, with the exception of the agricultural minimum wage which has continued to outpace all others. Equally important has been the change in the date of announcement of producer prices from just prior to harvest time to before the planting season, starting with the 1981 crop. Furthermore, producer prices have been increased every year instead of being kept unchanged during several years and then given a sudden boost in an attempt to catch up with the progressive deterioration of output/input relationships during the intervening period.

7. The announcement of crop prices prior to the beginning of the planting season renders more meaningful the evaluation of the pricing policy objective concerning the relative protection of the domestic sector from the world market. When the price for the 1983 wheat crop is announced in the Fall of 1982, however, what the 1983 world price will eventually be is not known. What is known is the world price at the time (Fall 1982), which is presumably the price at which OC will be contracting wheat purchases for delivery in the Winter and Spring of 1983. Consequently, producer prices announced for 1983 should be compared with import prices during the 1982-83 marketing year to arrive at an assessment of intended nominal protection (Table 3). The figures indicate considerable negative protection in 1981: this, however, must be seen in the context of abnormally high world prices in 1980 and 1981, which would have to be smoothed out by stabilizing domestic price as well as offering competitive prices to domestic producers. After 1981, negative protection remains for durum wheat, the variety traditionally grown by small farmers in Tunisia, while for tender wheat a slight positive protection appears.

8. Using approximate technical coefficients for farm models at an intermediate level of technology, effective rates of protection have been calculated for 1980 and 1983 and are shown, together with nominal protection rates (Tables 4 and 5). Although they indicate only approximate orders of magnitude, the figures show that the incentive policy clearly favors tender vis-à-vis durum wheat growing in Tunisia. Since imports of tender wheat exceed those of durum by a considerable margin, it is understandable that the Government should seek to encourage its growing. To the extent, however, that this should result in a substitution of tender for durum in production and a reverse movement in imports, the country will gain little on balance.

Table 2: AGRICULTURAL OUTPUT AND INPUT PRICES, 1980-1983

| | | 1980 | 1981 | 1982 | 1983 | 1980 | 1981 | 1982 | 1983 |
|--------------------|----------|-------|-------|-------|-------|-------|------|------|------|
| | | dinar | | | | index | | | |
| Output | | | | | | | | | |
| Durum Wheat | (ton) | 86 | 96 | 110 | 128 | 100 | 112 | 130 | 149 |
| Tender Wheat | (ton) | 77 | 87 | 100 | 17 | 100 | 113 | 130 | 152 |
| Barley | (ton) | 59 | 69 | 80 | 95 | 100 | 117 | 136 | 161 |
| Beef | (ton lw) | 600 | 670 | 830 | 920 | 100 | 112 | 138 | 153 |
| Mutton | (ton lw) | 950 | 1,060 | 1,311 | 1,381 | 100 | 112 | 138 | 145 |
| Milk | (ton) | 126 | 126 | 180 | 200 | 100 | 100 | 143 | 159 |
| Input | | | | | | | | | |
| 33-0-0 | (ton) | 50 | 50 | 66 | 77 | 100 | 100 | 131 | 144 |
| 0-45-0 | (ton) | 36 | 36 | 47 | 52 | 100 | 100 | 132 | 146 |
| Dairy Ration | (ton) | 48 | 48 | 92 | 121 | 100 | 100 | 190 | 250 |
| Beef Ration | (ton) | 44 | 44 | 87 | 115 | 100 | 100 | 199 | 264 |
| Plowing Services | (hr) | 3.0 | 3.3 | 3.3 | 4.5 | 100 | 110 | 110 | 150 |
| Combine Harvesting | (hr) | 12.0 | 15.0 | 15.0 | 15.0 | 100 | 125 | 125 | 125 |
| Agr. Minimum Wage | (day) | 1.63 | 2.0 | 2.4 | 2.6 | 100 | 123 | 147 | 160 |

Source: Ministry of Agriculture

Table 3: WHEAT PRICES, 1981-83, 1/

— (in TD per ton)

| | Durum | | | | Tender | | | | | |
|-------|--------------|------|------|------|--------|--------------|------|------|------|------|
| | Import (CIF) | 1981 | 1982 | 1983 | 1984 | Import (CIF) | 1981 | 1982 | 1983 | 1984 |
| 1980- | | | | | | | | | | |
| 1981 | 120 | 89 | | | | 87 | 80 | | | |
| 1981- | | | | | | | | | | |
| 1982 | 109 | | 102 | | | 92 | 92 | | | |
| 1982- | | | | | | | | | | |
| 1983 | 133 | | | 118 | | 105 | | 108 | | |
| 1983- | | | | | | | | | | |
| 1984 | 151 | | | 139 | 130 | | | | | 139 |

Source: OGC and OC.

1/ Producer prices are net of taxes and levies.

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Table 4: TENDER WHEAT, INTERMEDIATE TECHNOLOGY AND PROTECTION
(In Tunisian Dinar)

| | Units/ha | 1980 | | | | 1983 | | | |
|-------------------------------|----------|------------|--------|----------|--------|------------|--------|----------|--------|
| | | Unit price | | Costs/ha | | Unit price | | Cost/ha | |
| | | Domestic | Border | Domestic | Border | Domestic | Border | Domestic | Border |
| Traded inputs | | | | 82.3 | 90.4 | | | 124.7 | 132.3 |
| seed | .11 ton | 82 | 90 | 9.0 | 9.0 | 107 | 107 | 11.8 | 11.8 |
| 0-45-0 | .1 ton | 38 | 52 | 3.8 | 5.2 | 56 | 93 | 5.6 | 9.3 |
| 33.5-0-0 | .13 ton | 52 | 75 | 6.8 | 9.8 | 75 | 92 | 9.8 | 12.0 |
| herbicide | 1.3 lt | 1.0 | 1.8 | 1.3 | 2.3 | 3.3 | 4.6 | 4.3 | 6.0 |
| tractor services | 14 hr | 3.0 | 3.1 | 42.0 | 43.4 | 4.5 | 4.5 | 63.0 | 63.0 |
| spray services | 1.3 hr | 3.0 | 3.1 | 3.9 | 4.0 | 4.5 | 4.5 | 5.8 | 5.8 |
| combine services | 1 hr | 9.5 | 9.8 | 9.5 | 9.8 | 15.0 | 15.0 | 15.0 | 15.0 |
| transport | | 5.1 | 5.1 | 5.1 | 5.1 | 7.6 | 7.6 | 7.6 | 7.6 |
| sacks | 18 | .05 | .05 | 0.9 | 0.9 | 0.1 | 0.1 | 1.8 | 1.8 |
| Gross Value | | | | | | | | | |
| Grain | 1.8 tons | 68 | 73 | 122.4 | 131.4 | 103 | 100 | 185.4 | 189.0 |
| Value Added | | | | 40.1 | 41.0 | | | 60.7 | 47.7 |
| Nominal Protection Rate (%) | | | | -7 | - | | | -3 | - |
| Effective Protection Rate (%) | | | | -2 | - | | | +27 | - |

Source: Based on production cost profiles for 1980 from IBRD 1982 Tunisia Agricultural Sector Survey(3876-TUN)

Table 5: DURUM WHEAT, INTERMEDIATE TECHNOLOGY AND PROTECTION
(In Tunisian Dinar)

| | Units/ha | 1980 | | | | 1983 | | | |
|-------------------------------|----------|------------|--------|----------|--------|------------|--------|----------|--------|
| | | Unit price | | Costs/ha | | Unit price | | Cost/ha | |
| | | Domestic | Border | Domestic | Border | Domestic | Border | Domestic | Border |
| Traded inputs | | | | 49.7 | 58.3 | | | 78.4 | 85.8 |
| seed | .1 ton | 91 | 113 | 9.1 | 11.3 | 117 | 117 | 11.7 | 11.7 |
| 0-45-0 | .05 ton | 38 | 51 | 1.9 | 2.6 | 56 | 93 | 2.8 | 4.6 |
| 33.5-0-0 | .1 ton | 52 | 75 | 5.2 | 7.5 | 75 | 92 | 7.5 | 9.2 |
| herbicide | 3 lt | 1 | 1.8 | 3.0 | 5.4 | 3.3 | 4.6 | 9.9 | 13.8 |
| tractor services | 7 hr | 3.0 | 3.1 | 21.0 | 21.7 | 4.5 | 4.5 | 31.5 | 31.5 |
| combine services | 1 hr | 9.5 | 9.8 | 9.5 | 9.8 | 15.0 | 15.0 | 15.0 | 15.0 |
| Gross Value | | | | | | | | | |
| Grain | 1.04 ton | 77 | 94 | 80.0 | 97.8 | 113 | 128 | 117.5 | 133.1 |
| Value Added | | | | 30.4 | 39.5 | | | 39.1 | 47.3 |
| | | | | -18 | - | | | -12 | - |
| Effective Protection Rate (%) | | | | -23 | | | | -17 | |

Source: Based on production cost profiles for 1980 from IBRD 1982 Tunisia Agricultural Sectors Survey (3876-TUN)

Concerning the absolute levels of effective protection if account were taken of current protection rates of manufactures, the observed positive rate for tender wheat would almost certainly become negative in an intersectoral context. By the same token, the intersectoral penalization of durum wheat would be substantially higher than that shown by the figures.

9. Beef and Milk. Producer prices of beef have been increased approximately in step with those of wheat since 1980. Prices of milk were increased sharply in 1980, and again in 1982 and 1983, reflecting the increases in feed concentrate prices resulting from reductions in subsidization levels (Table 6).

Table 6: INDICES OF PRODUCER PRICES OF BEEF, MILK AND FEED CONCENTRATES, 1980-83

| | <u>Beef</u> | <u>Milk</u> | <u>Feed Concentrates</u> |
|------|-------------|-------------|--------------------------|
| 1980 | 100 | 100 | 100 |
| 1981 | 109 | 100 | 100 |
| 1982 | 135 | 143 | 190 |
| 1983 | 149 | 159 | 250 |

1/ Base year figures are D 0.617/kg liveweight; D 0.126/l (D 0.090 in 1979); and D 48.40/t (D 40.00 in 1979) respectively.

Source: Planning Department, Ministry of Agriculture.

10. Tunisia imports considerable amounts of beef and powdered milk. These imports, however, come from EEC countries at heavily subsidized prices, which do not reflect the interplay of free market forces in the exporting countries and, consequently, should not be taken to be correct signals to guide resource allocation in the importing country (Table 7). A strong case, in fact, could be made for a countervailing tariff that would siphon the exporting countries' subsidies to Central Budget revenue, thereby benefitting the population at large rather than just the consumers (or processors) of beef and reconstituted milk.

Table 7. WORLD AND DOMESTIC PRODUCER PRICES FOR BEEF, 1980-1983

| | <u>World Prices</u> (frozen boneless) | | <u>Domestic Prices</u> (carcass) |
|------|--|-------|-------------------------------------|
| | US\$/t | D/t | D/t |
| 1980 | 2,760 | 1,118 | 1,122 |
| 1981 | 2,480 | 1,225 | 1,218 |
| 1982 | 2,390 | 1,412 | 1,509 |
| 1983 | 2,450 | 1,662 | 1,850 |

Source: Mission estimates.

11. Taking into account differences in type and presentation of the product and transportation costs, no large deviation between world and domestic prices is apparent in 1982 and 1983. The same conclusion is reached by comparing the likely levels of import prices if EEC subsidies were removed with domestic prices, at end 1983. Following discussions with Société Ellouhoum officials, the following figures were arrived at:

| | <u>Import Price (CIF)</u> | | <u>Domestic Price</u> |
|--------------|---------------------------|----------------|-----------------------|
| | Subsidized | Non-subsidized | |
| Live Animals | 1,750 | 1,915 | 1,850 |
| Chilled Meat | 1,050 | 1,800 | - |

In 1983, there was nil nominal protection on beef raising. Effective protection rates, however, ranged from 0 for a system based on permanent pasture with no concentrate use to 73 percent for a system based on silage with moderate concentrate use, reflecting the effect of continuing subsidization of feed concentrates (Table 8).

12. Milk. The analysis of milk production incentives presents the customary difficulties associated with its being a non-tradable commodity and with the pervasive practice of production subsidization in major producing countries. A meaningful indicator could be the ratio of beef to milk producer prices. In 1983, this ratio was 9.25 in Tunisia compared to 10.5 in France, which would indicate a relatively "high" milk price in Tunisia and, consequently, accepting the finding of no protection for beef, some degree of protection for milk. The producer price reported in Tunisia, however, is TD 0.200/1 delivered to the factory which would translate to no more than TD 0.185 at farm gate, yielding a beef/milk ratio comparable to that in France.

Table 8: BEEF FATTENING PRODUCTION COSTS
(in Tunisian dinar)

| | Prices/Indices <u>1/</u> | <u>Rainfall Pasture</u> | | <u>Hay & Concentrates</u> | |
|----------------------------------|--------------------------|-------------------------|--------------|-------------------------------|--------------|
| | | Domestic | Border | Domestic | Border |
| Inputs | | <u>339.0</u> | <u>339.0</u> | <u>393.4</u> | <u>417.8</u> |
| Straw | 125 | - | - | 4.5 | 4.5 |
| Hay | 135 | - | - | 27.0 | 27.0 |
| Silage | 145 | - | - | - | - |
| Pasture | 130 | 41.6 | 41.6 | - | - |
| Green Forage | 145 | - | - | - | - |
| Concentrate | 264 | - | - | 69.7 | 94.1 |
| Vet Services | 160 | 3.2 | 3.2 | 3.2 | 3.2 |
| Water | 150 | 7.5 | 7.5 | 1.5 | 1.5 |
| Transport | 150 | 6.0 | 6.0 | 9.0 | 9.0 |
| Thin Animal | <u>2/</u> | 272.0 | 272.0 | 272.0 | 272.0 |
| Mortality/Insurance | 135 | 8.4 | 8.4 | 3.4 | 3.4 |
| Building Depreciation | 140 | 0.3 | 0.3 | 3.1 | 3.1 |
| Gross Value | | <u>422.0</u> | <u>422.0</u> | <u>426.5</u> | <u>426.5</u> |
| meat (400kg) | 153 | 422.0 | 422.0 | 422.0 | 422.0 |
| Manure | 150 | - | - | 4.5 | 4.5 |
| Value Added | | 83.0 | 83.0 | 33.1 | 8.7 |
| Effective Protection Rate | % | 0 | | 280 | |

1/ Indices are estimated price increases over 1980-83 period.

2/ Estimated at .65 of fattened animal .

Source: Based on cost production profile for 1980 from IBRD 1982 Tunisia Agricultural Sector Survey (3876-TUN).

13. On the whole, no significant nominal protection to milk production is apparent in Tunisia (Table 9). As in the case of beef, effective protection does appear by virtue principally of the subsidization of feed rations. Effective protection in 1983 is estimated at 14% for a system based on silage with low concentrate use, increasing to 28% for a system based on permanent pasture with moderate use of concentrate. These production systems based on intensive feeding of imported feed stuffs contribute little to domestic value added, and their continued encouragement through feed subsidization incurs large social costs.

C. Subsidy Issues

14. Wheat. Wheat subsidies fall into two broad categories (para. 3): sales of wheat by OC to flour mills below cost (hereafter, the wheat subsidy), and reimbursement to bakers of the difference between bread and pasta sales at official prices and estimated production costs (the bread subsidy). There is no question that bread is heavily subsidized in Tunisia. A CIMMYT study found that bread price in Tunisia around 1980 was US\$0.23/kg, considerably lower than prices in France or Italy (\$1.24/kg - \$1.30 /kg) and Chile or Uruguay (\$ 0.78/kg - \$0.66/kg).^{1/} The differential must be even more striking currently, since prices in Tunisia have remained unchanged. Under these circumstances, substantial subsidies are unavoidable.

15. The wheat subsidy stems from the growing difference between increasing market prices and a constant (since 1980) sales price to millers. Its reported total appears somewhat misleading since it includes as costs a number of items that are actually taxes collected, as well as a widening margin between acquisition cost and "normal resale price". On the whole, however, there appears little room to reduce this subsidy substantially without recurring to higher consumer prices of bread.

16. The bread subsidy stems from the difference between production costs (as agreed by the pricing regulation authorities and the bakers' union) and receipts from sales at official prices. The subsidy per ton of flour has increased from TD 40 in 1981 to TD 90 in 1983, a far higher rate than prices and wages in general. It is likely that substantial subsidy savings could be achieved without affecting consumer prices by a revision of the cost estimation and reimbursement procedures.

^{1/} CIMMYT: 1983 World Wheat Facts and Trends. pp. 24-32.

Table 9: MILK PRODUCTION COSTS

(Tunisian dinar per cow)

| | Prices/Indices <u>1/</u> | Silage & Low Concentrate Use | | Forage & High Concentrate Use | |
|---------------------------|--------------------------|------------------------------|--------------|-------------------------------|--------------|
| | | Domestic | Border | Domestic | Border |
| Inputs | | <u>392.9</u> | <u>429.7</u> | <u>449.0</u> | <u>522.0</u> |
| Straw | 125 | 12.5 | 12.5 | 13.7 | 13.7 |
| Hay | 135 | - | - | 49.3 | 49.3 |
| Silage | 145 | 215.2 | 215.2 | | |
| Pasture | 130 | - | - | | |
| Green Forage | 145 | - | - | 95.3 | 95.3 |
| Concentrate | 250 | 105.0 | 141.8 | 219.0 | 295.6 |
| Vet Services | 160 | 8.0 | 8.0 | 8.0 | 8.0 |
| Water | 150 | 4.5 | 4.5 | 4.5 | 4.5 |
| Transport | 150 | 3.0 | 3.0 | - | - |
| Administration | 160 | 8.0 | 8.0 | 8.9 | 8.9 |
| Cow Amortization | 153 | 107.1 | 107.1 | 81.5 | 81.5 |
| Mortality/Insurance | 153 | 27.5 | 27.5 | 57.8 | 57.8 |
| Building Depreciation | 140 | 21.0 | 21.0 | 23.8 | 23.8 |
| Calf (by-product) | 153 | (96.4) | (96.4) | (96.4) | (96.4) |
| Manure (by-product) | 150 | (22.5) | (22.5) | (16.4) | (16.4) |
| Gross Value | | <u>684.5</u> | <u>684.5</u> | <u>555.0</u> | <u>555.0</u> |
| Liters per Cow | | 3,700 | 3,700 | 3,000 | 3,000 |
| Price | .1850/ton | | | | |
| Value Added | | 291.6 | 254.8 | 106.0 | 32.1 |
| Effective Protection Rate | % | 14 | | 230 | |

1/ Indices are estimated price increases over 1980-83 period

Source: Based on cost of production profiles for 1980 from IBRD 1982 Tunisia Agricultural Sector Survey (3876-TUN).

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17. Beef. Beef prices to the consumer were declared free in November 1982. In practice, however, they are rigidly controlled and were, in fact, raised in March 1984. In Tunisia, beef is classified in three categories which currently sell at TD 1.4/kg, TD 1.7/kg, and TD 2.5/kg, respectively. Elsewhere, consumer prices are TD 1.5/kg for bone-in meat and TD 2.0/kg for boneless meat. To allow butchers to charge those prices, Société Ellouhoum sells them meat at TD 1.25/kg. Société Ellouhoum makes a gain of about TD 0.20/kg on sales of imported chilled beef and incurs a loss of about TD 0.60/kg on sales of domestic cattle and of live cattle imports. According to Ellouhoum officials, raising the price to butchers to the unsubsidized (i.e. paid by Ellouhoum and butchers to local producers) level of TD 1.85/kg would require that consumer prices per beef category be raised to about TD 1.6/kg, TD 2.6/kg, and D4/kg, respectively, or about 60% over current levels for the two better categories.

18. The heavy subsidization of beef prices is certain to entail appreciable costs to the domestic livestock industry. Meat demand will undoubtedly shift to beef from lamb and poultry, rendering these activities artificially less attractive. Butcher purchases will increasingly gravitate towards Société Ellouhoum's concessional prices, crippling private marketing channels. And Ellouhoum itself should find it increasingly attractive to import EEC-subsidized chilled beef, on which it makes a gain, rather than purchasing the considerably more expensive domestic cattle. A strong case exists, on efficiency grounds alone, for a gradual elimination of the beef subsidy. Equity considerations, given the pattern of meat consumption by different income groups, would strongly reinforce the efficiency case.

19. Milk. The milk and bread subsidy issues have similar characteristics. In both cases, the subsidy is given to cover the excess of production costs over receipts at fixed prices. The main difference is in the structure of the processing industry which consists of two large parastatal companies in the case of milk, and about 1,300 small scale bakers under a strong union in the case of bread.

20. With the present structure of milk pricing (Table 10) and since the companies are reimbursed on a cost-plus basis (see the main text), there is no incentive to streamline costs. In fact, there is an incentive to do just the opposite given the accepted profit margin of 18% over processing costs (see Chapter IV in the main volume). Nor is there a reason to seek a more economically suitable packaging alternative, with the result that the charges for packaging alone amount to nearly as much as it usually costs to carry out the entire reconstitution process. And since imported milk powder and butterfat are heavily subsidized by the EEC and the parastatals enjoy the exclusive right to import, there is little danger of competition. As calculated by CGC, the average subsidy per liter of milk rose from 42 millimes in 1982, to 79 millimes in 1983. It should be possible to lower this cost considerably by a reconsideration of the reimbursement procedure and a liberalization of access to imports. A gradual phasing out of the entire subsidy payment could be undertaken without any repercussions on consumer prices for reconstituted milk.

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Table 10: STRUCTURE OF MILK PRICING, 1983

(in millime per liter) 1/

| | <u>Reconstituted 3/</u> | <u>Blend 2/</u> |
|----------------------|-------------------------|-----------------|
| Raw Materials | 92.8 | 147.1 |
| Labor | 41.4 | 27.6 |
| Miscellaneous Inputs | 20.9 | 17.6 |
| Amortization | 21.5 | 7.0 |
| Finance Charges | <u>20.7</u> | <u>5.4</u> |
| Processing Cost | 197.3 | 204.8 |
| Profit Margin (18%) | <u>35.5</u> | <u>36.9</u> |
| Sub-total | 232.8 | 241.7 |
| Packaging | 62.6 | 51.3 |
| Ex-factory Cost | <u>295.4</u> | <u>293.0</u> |
| Wholesale Price | 234.0 | 223.0 |
| (Consumer Price) | (260.0) | 260.0) |
| Subsidy | 61.4 | 70.0 |

1/ Figures correspond to the January 1-September 30, 1983 period.

2/ Blend milk reportedly consists of 30% fresh and 70% reconstituted milk, although the cost figures would rather correspond to a 50/50 mix, since fresh milk at the collection center has an official price of TD 0.200/litre.

3/ The processing cost of reconstituted milk is reportedly higher because it is carried out in an even more expensive factory with a labor force that commands higher remuneration for seniority (as required by the wage regulation system).

Source: Société Tunisienne des Industries du Lait (STIL).

AN ILLUSTRATIVE ANALYSIS OF INDUSTRIAL-GOODS PRICING IN PRACTICE

1. Centralizing collection of enterprise accounts and production cost data by the pricing authorities (essentially DPC) should, in principle, permit quite detailed micro-level investigation of the effects of pricing regulation to measure the tendencies discussed in Chapter IV of the main text. This would be a fairly substantial task and the mission, however, pursued the more limited objective of an illustrative analysis for two industrial products. This analysis was carried out with difficulties, largely for practical rather than conceptual reasons. There are some conceptual problems of how to measure the effects discussed, such as the difficulty in measuring technical ratios (in production) or to analyze the tendency to "micro-inefficiency". But in addition there were insurmountable problems of information availability, already mentioned in Chapter IV. The large gap between the task for which DPC is responsible and its available resources (manpower and other) has resulted in a data-management situation that is far too inefficient in its present assignment.^{1/} It precludes easy historical analysis of past tendencies in the price regime.

2. The lack of any computerization until very recently means first of all that review of past files must be done manually.^{2/} Manual retrieval is encumbered further by incomplete files, the lack of systematic ordering of the very large number of documents (fiches) submitted as part of every file, and the incomparability over time of basic accounting information. An illustration of the last point concerns car-batteries, a product the mission attempted to analyze in depth. The annual report format for the main enterprise producing batteries was different in different years (and not all years were available) so that for example in an earlier year administrative and non-administrative salaries were not distinguished, and the number of employees was not indicated, only total salaries and wages. Nevertheless one product was reviewed in detail for illustration of a possible analytical procedure to evaluate the effect of the price regime. Before we discuss this, we will summarize general impressions of the specific difficulties created on a day-to-day basis by the administrative process.

^{1/} As already mentioned in the main volume, the exact amount of resources needed by DPC strongly depends on the exact tasks it is supposed to perform. The mission's observation that actual DPC resources are insufficient to carryout its present tasks do not imply that the mission endorses the need for performing all these tasks.

^{2/} Indeed even a review of current files cannot be done in any cross-section fashion (such as checking a certain ratio, say assets to labour) for many enterprises. The present state of computerization is still too rudimentary and comprises only entry and retrieval of files by product and by enterprises individually; a more general analytical programming would be needed besides calculating the formulas of Figure IV 1 in the main text.

The Inevitability of Logistical Errors in Practice

3. A fairly detailed review of two case files (transformers and batteries), plus less in-depth observation of a number of other files (televisions, television components, gas and electric stoves, harissa canning, tiles and related construction materials) reveals several logistical difficulties, which illustrate the general problem of the logistical-administrative complexity of price regulation (para. 4.40). Only a few of the more striking instances are noted here.

4. Non negligible possibilities of misfiling from one product file into another one (a fact that the mission was confronted with), may trigger substantial problem concerning the risk of miscalculating price (or starting a cumbersome discussion with the enterprise) just because of factual mistakes. For example, the mission ran into the following case: A file for transformers was not accepted and returned to the enterprise because it was said to be incomplete but in fact was not incorrect. The missing datum (finance charges) was available in the file and shown on the so-called statement of Indirect Production Costs (Frais de Fabrication), but DPC registering system does not use this statement and rather takes the value of financial charges from another statement, which was missing (Fiche d'Emprunt or Statement of Loans.) The enterprise in question had calculated a correct price - as verified by the Mission using the Fiche des Frais de Fabrication. Moreover, the fact of a missing "Fiche d'Emprunt" was not apparently the immediate cause of the request for completing the file; the data were first, automatically registered in the computer program, but as Fiche d'Emprunt was not there the value for financial charges was entered as zero, the formula was applied, and the calculated price came out lower than the proposed price. This signalled the need for a closer look and finally led to the rejection of the file for "incompleteness" and specifically a missing "Fiche d'Emprunt". Was this a real problem, or a "false alarm" causing delay and inconvenience to both the enterprise and the administration?

5. While the above case was "caught" by the signal of a calculated price lower than the proposed price, another problem was caught by the opposite signal: a calculated price in excess of that proposed. We describe this case, because the files reviewed by the Mission strongly suggested this may be a symptomatic rather than a random problem: of the dozen or more product price calculations observed nearly half showed the result of a price calculated by DPC greater than that proposed by the enterprise. While all such cases automatically resulted in follow-up action and were not simply allowed to go through, it is perhaps instructive to explain why this happened in the one instance (randomly) investigated in depth by the Mission. The problem turned out to be similar to the transformer case. To calculate the K-coefficient in the formula (see Figure IV 1), DPC takes the denominator value of total direct labour costs from an entry on a statement allocating direct and indirect labour costs by product. The values are supposed to be gross labour cost for each product; the enterprise mistakenly completed this as per unit labor cost

of each product - not unreasonably so as the guideline descriptions are vague. This of course meant that DPC's computerized calculation of the K-coefficient was too high, and so the amount of indirect costs allocated to each product. The enterprise's own calculations of the prices were however entirely correct, as they took the gross direct labour costs shown in other statements in the file to make the calculation of the K coefficient.

6. Again the issue is not at all whether DPC entry of the data should have or could have been more flexible; indeed the two cases cited demonstrate a commendable action: DPC uses a systematic procedure for entering data. But this only serves to show the problem of administering a price system. Even in a systematic procedure errors occur, and any errors of arithmetic interpretation, or other human errors, then simply are passed through the system. This is inevitable and is a cost of price regulation, perhaps even a too high cost if the limited observations by the Mission are at all indicative of what happens more generally. The apparent pettiness of each such case should not mislead one; if each such case means a lost half-day here and another lost day there, this can quite quickly add up to substantial waste of time and energy for both the Administration and the producers.

An Approach to Analyze Negative Effects of Price Regime

7. It may not be necessary to try to measure more precisely the existence and extent of some of the theoretical negative effects described in the preceding pages, but it is certainly possible, given enough time and resources. The historical files of price regulation certainly in principle permit a closer look at what enterprises have in fact done over the years under homologation and auto-homologation. The lack of systematic reporting of price regulation activities as well as the difficulties of manual retrieval of data files that are not complete or systematic would make this task more complicated and probably preclude comprehensive analysis of all historical files. But one can define a number of indicators (ratios, growth rates) for different variables available in the files, which would permit measurement of the various effects. We describe here a number of such indicators as an illustration, and apply them as data permitted to the specific case of one product, electrical transformers.

8. The nine ratios in Table 1 are neither comprehensive nor without problems of interpretation. Take for example, for raw materials, the ratio 2) RMCR: Unnecessary increases in costs by purchasing excessively expensive products is not easy to demonstrate in the aggregate because the cost is passed on in the price and therefore the sales value. But excessive stockage in 3) RMS, as well as increased reliance on (usually more expensive) imported raw material in 4) RMI, may in fact capture cost inflation and micro-inefficiency of production. Similarly, there is a problem with measuring capital intensity because only financial values of assets or amortization are available rather than economic ones. Profit ratios may not fully capture what is intended because some of the tendency to take advantage of cost-plus pricing may be manifested in the "hidden" profits items such as financial

amortization in excess of economic depreciation. Despite these shortcomings, it would be worthwhile to analyze ratios such as these (or others) to better understand what effects the price-regulation of industrial goods had upon enterprise operations.

9. For reasons already cited, this could not be done satisfactorily by the mission for more than one product, and even then, rather incompletely. But for purposes of illustration, we show the values of some of these ratios

Table 1: SELECTED INDICATORS OF PRICE REGULATION EFFECTS

| <u>Indicator at Enterprise Level</u> | | <u>Inflation Costs and Benchmark Norm</u> |
|--------------------------------------|---|---|
| <u>I. MICRO-INEFFICIENCY</u> | | |
| 1. WAPI - | Weighted Average Price increase, all products | - Inflation rate in economy or sector |
| 2. RMCR - | Raw Material Cost Ratio, Relative to Sales | - Same ratio in earlier year |
| 3. RMS - | Raw Material Stocks as ratio of production value | - Same ratio in earlier year |
| 4. RMI - | Raw Materials Imported relative to total purchases of raw materials | - Same ratio in earlier year |
| 5. WINCR - | Average Wage & Salary Increase | - Economy wide increase |
| <u>II CAPITALIZATION</u> | | |
| 6. ASSET/LAB | Capital stock/labor | - Same ratio, earlier year |
| 7. AMORT/L | Amortization/Labor | - Same ratio, earlier year |
| <u>III PROFITS</u> | | |
| 8. PROF1 = | Financial Profits as percent of Invested Capital | - Same ratio, earlier year |
| 9. PROF2 = | <u>(Value Added - Labor Costs)</u> Invested Capital | - Same ratio, earlier year |

for transformers produced by one enterprise in Table 2. It was not possible to obtain the correct definitions for "invested capital" ("capital social" or "capital propre") for the calculation of indicators 8 and 9, but otherwise DPC files were able to provide sufficient information to calculate the other indicators. We emphasize again the indicators themselves are subject to interpretation problems, and one case cannot be used as evidence of general tendencies. But with that in mind, one can see that for this particular case, all of the indicators moved as the theoretical tendencies described in Chapter IV suggested. Overall, requested price increases were considerably above inflation. It is noteworthy that for transformers, the IEQ study of effective protection found domestic sale prices 70 percent higher than exported good prices, while nominal protection as measured by tariffs was only 16 percent. Though product differences may explain this, the high gap is in principle at least consistent with the interpretation given in Figure 4, Annex III on how domestic prices can be higher than the tariff-laden world price if import restrictions apply. The connection with the domestic price-regulation system is in the fact that tight external protection permits the domestic producer to take fuller advantage of the inflationary cost-plus tendency of both homologation regimes.

10. For the other indicators, similar tendencies are reflected. Raw material costs relative to sales increased considerably. Though it turns out that a different ratio, raw material costs as a proportion of production value (not shown in Table 2), did not increase this ratio is less meaningful because production value already includes raw material costs. The ratio shown here is perhaps subject to some bias; if sales fall off unexpectedly — and 1982 was a poor year for economic activity — raw materials used may lag behind sales since an enterprise must plan ahead and cannot always predict sales slowdowns. A closer analysis would be needed to check on this effect. But stockage of raw materials relative to production should not go up so much if the problem was that planned production exceeded sales, yet indicator 3 also shows a dramatic increase. The rise in the share of imported raw materials is slight, but it still suggests cost-inflation in the form of buying more expensive inputs abroad.

11. Finally, while wage increases are only slightly above the economy-wide salary increases for the period, the increases in capital to labor (assets or amortization) are substantial. It is noteworthy that the actual number of employees increased moderately from 260 to 293 (13 percent), while sales increased about 11 percent from TD 3,459,000 to 3,835,000 and value of fixed assets went from about TD 260,000 to 1,545,167, an increase of 100 percent. Overall, the strongest tendency observable in this case of transformers is the tendency to capital expansion, and doubtless given the small increase in sales this led to decreased capacity utilization. But this may reflect a timelag in investment installation.

Table 2: ILLUSTRATIVE COMPUTATION OF SELECTED
PRICE REGIME INDICATORS FOR TRANSFORMERS, 1980 AND 1982

| Indicator (1982 or as Indicated) | | Benchmark Norm (1982 or as Indicated) |
|--|-----------------|--|
| 1) WAPI = 1980 to 1983 Average Price Increases | <u>54%</u> | - Inflation 1980 to 1983 = 33% |
| 2) RMCR = Raw Material Cost Sales = | <u>.365</u> | - Same ratio 1979 = <u>.627</u> |
| 3) RMS = Raw Material Stock/ Production = | <u>.144</u> | - Same ratio 1979 = <u>.391</u> |
| 4) RMI = Share of Imported Raw Materials = | <u>.77</u> | - Same ratio 1979 = <u>.82</u> |
| 5) WINCR = Wage Increase = | <u>5.7%</u> | - Wage Increases 1979-1982 = 45% |
| 6) ASSET/LAB = | <u>TD 2,923</u> | - Same ratio 1979 = <u>TD 5,273</u> |
| 7) AMORT/LAB = | <u>TD 1,842</u> | - Same ratio 1979 = <u>TD 2,419</u> |
| 8) PROFI = n.a. | | - n.a. |
| 9) PROF2 = n.a. | | - n.a. |

Source: Calculated from DPC files made available to Mission in
collaboration with the Planning Department in the Ministère du Plan,

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12. We emphasize again the above is merely illustrative and neither does it comprehensively analyze all the possible theoretical tendencies noted earlier, nor can it be used to infer any generally applicable conclusions. It is meant only to demonstrate that the theoretical analysis can be applied in practice, and to indicate that indeed some of the expected tendencies do manifest themselves in practice. It is noteworthy that although the case-study shown was the only one actually done by the mission, no prior indication was available that transformers were particularly subject to inflation, or cost push effects, or intensive capitalization.

ANNEX III

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VARIOUS DOCUMENTS ON PRICE REGIMES, FORMULAS, CHARTS AND FIGURES

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Table 1: PRE-1982 COVERAGE OF PRICE REGIMES
BY PRODUCT

Items underlined have been put into other categories
as noted in brackets

A) The "Homologation" List

No specific listing of products exists for this type of price control. The products falling under "homologation" encompass locally manufactured goods which are not subject to any other type of price control. (Since 1982, most goods have been shifted to auto-homologation)

B) The "Taxation" list (list A)

Bread

Flour and Semolina

Couscous and Fancy pastes

Meat (lamb meat to free prices; beef and chicken still under taxation)

Milk and Dairy Products (fresh milk in free prices)

Vegetable oils

Sugar

Tea

Coffee

Rice (free prices)

Pepper

Radio and Television Sets (to auto homologation)

Lime, Cement, Briks and other Construction Materials

Fertilizers

Water, Electricity and Gas

Transportation

School Supplies

Newspapers and Magazines

Table 1 (Continued)

Entertainment (movies and theatre)
Gasoline, Motor Oil and Other Fuels
Health Services (doctors' fees, hospitalization fees)
Pharmaceutical Products (at the producer's level)
Mineral Water (at the producer's level)

The "Auto-homologation" List (List B)

Pharmaceutical Products
Agricultural Equipment
Fruits (fresh and dry), Fresh and Dried Vegetables (to free prices)
Poultry Products (to free prices)
Fish and Other Seafood (to free prices)
Spare Parts for Agricultural and Industrial Machinery
Spare Parts and Other Accessories for Automobiles
Alcohol, Wine and Soft Drinks
Hardware Stores
Beauty Products (to free prices)
Jewelry, Clocks and Watches
Toys (free prices)
Sports Goods (to free prices)
Musical Instruments and Records (to free prices)
Household Appliances
Photographic Equipment
Bicycles and Motorcycles
Candy Shops
Leather Goods (to free prices)
Canned Fruits and Vegetables
Tires

Table 1 (Continued)

Kitchenware and Silverware (some to free prices)

Calculators, Sewing Machines, Typewriters

Electric Equipment

Iron and Steel Products

Wood Products

Health Products

Medical Equipment and Surgery Equipment

The "Liberté Contrôlée" List (List C)

Toilet-Soap (to homologation)

Light and light fixtures (to auto-homologation)

Shoes (some to free prices)

Leather Goods (to free prices)

Jewelry (to free prices)

Woodwork, Small-and-Large Scale Carpentry (to free prices)

Tailoring

Textiles (to auto homologation)

Hardware Goods (some to free, some to auto-homologation)

Paints

Packaging

Detergents

Toys (to free prices)

Paper (some to free, some to auto-homologation)

School Equipment and Furniture (some to free, some to auto-homologation)

Drycleaning

Glassware (to homologation)

Source: The above reproduces Appendix I Table 1 of the 1981 working document Price Controls and Subsidies in the Tunisian Economy.

Table 2: BAKING MARGIN CALCULATION, 1982-1984

(In millimes per quintal)

| Cost Item | Gros Pain (Large Loaf) 700 g. | Petit Pain (Small Loaf) 300 g |
|---------------------------------|----------------------------------|----------------------------------|
| Farine (flour) | 10,500 | 10,500 |
| Loyer (rent) | 233.9 | 233.7 |
| Assurance (insurance) | 8.78 | 8.78 |
| Amortissement (depreciation) | 186 | 186 |
| Entretien (maintenance) | 200.8 | 200.8 |
| Chauffage (heating) | 13.5 | 20.2 |
| Déchargement (storing) | 40 | 40 |
| Force Motrice (fuels) | 174 | 237.0 |
| Sel (salt) 62.5 | 62.5 | 62.5 |
| Levure (yeast) | 805 | 805 |
| Eau (water) | 28 | 28 |
| Fleurage (fine bran) | -- | 23 |
| Huile (oil) | -- | 300 |
| Frais Généraux (overhead costs) | 200 | 413 |
| Salaires 1982 (wages) | 7,280.7 | 9,218 |
| 1984 | (8,280.7) | (10,218) |
| Bénéfice | 1,400 | 1,400 |
| | ===== | ===== |
| <u>Total</u> 1982 | 22,467.4 | 25,680.2 |
| 1984 | (23,467.4) | (26,680.2) |
| <hr/> | | |
| Compensation 1982 | | 8,033 |
| (1984) | | (9,033) |

Source: Direction du Contrôle et des Prix. Ministère de l'Economie Nationale.

Figure 1: MARGINS FOR AUTO-HOMOLOGATION

| <u>DESIGNATION DES PRODUITS</u> | <u>Marge Brute</u> |
|--|--------------------|
| A. Produits alimentaires | 15% |
| - Biscuits | 18% |
| - Biscuits - biscuits gaufrettes | 18% |
| - Chocolat | 16% |
| B. Articles en Plastiques | 21% |
| C. Chaussures : | 22% |
| D. Matériaux de construction | 18% |
| - Marbre - sciage | 20% |
| - usinage | 24% |
| - Carreaux mosaïques | 17% |
| - Tuyaux en amiante ciment | 20% |
| - Aggloméré | 16% |
| E. Produits chimiques | 16% |
| - Peinture à l'exclusion des résines et toutes autres matières servant à la fabrication de la peinture | 23% |
| - Mastic | 23% |
| - Colle | 19% |
| - Détegers liquides à l'exclusion du Javel et Grésyl | 16% |
| - Désinfectants ménagers | 16% |
| - Encres scolaires et d'imprimerie | 16% |
| F. Textiles | 20% |
| - Tissus coton (y compris les draps de lit | 21% |
| - Draperie et lainage | 22% |
| - Tissus soierie SN + S.A. | 24% |
| - Ameublement (y compris de velours) et tissus jacquard | 28% |
| - Bonneterie | 24% |
| - Confection | 23% |
| - Papiers sanitaires | 18% |
| - Carton | 16% |
| - Radio Télé, Antennes | 12% |
| - Electro ménager | 15% |
| - Câbles électriques et téléphoniques | 16% |
| - Mécaniques | 17% |

Source: Arrêté du Ministre de l'Economie Nationale du 27 janvier 1982, Journal Officiel de la République Tunisienne, vendredi 29 janvier, 1982, pp. 231-232.

Appendix 1: A PARTIAL EQUILIBRIUM APPROXIMATION
OF LOSS DUE TO DISTORSIONS IN THE IME SECTOR

- . Consider only inefficient branches "i", with $DRC_i \neq 1$
- . (1) $DRC_i = \frac{\text{Domestic Resources Used in } i \text{ at shadow prices}}{\text{Value Added in } i \text{ at world prices}}$ (1)
$$DRC_i = DRU_i / VAI$$
- . (2) Loss in value added = $DRU_i - VAI = (1 - \frac{1}{DRC_i})$
- . (3) Total Loss in Value Added = $DRU_i (1 - 1/DRC_i)$
- . But the above is likely an overestimate of potential gain with removal of distortions for two reasons: not all branches will become world efficient ($DRC = 1$); the value of DRC_i is likely to decline as less resources are used in i like marginal cost, hence the gain would be the area under the DRC curve, not the entire rectangle BCDE (see Figure below).
- . Therefore as a rough approximation we take 1/2 of the rectangle;
- . (4) Estimated Loss in Value Added = $(.5) (DRU) (1 - 1/DRC_i)$
- . Note that in a general equilibrium sense (3) is an under estimate because it ignores the effect of new resources coming into the IME sector either from other sectors or from underemployed resources.

FORMULA FOR PRICE CALCULATIONS: AUTO-HOMOLOGATION

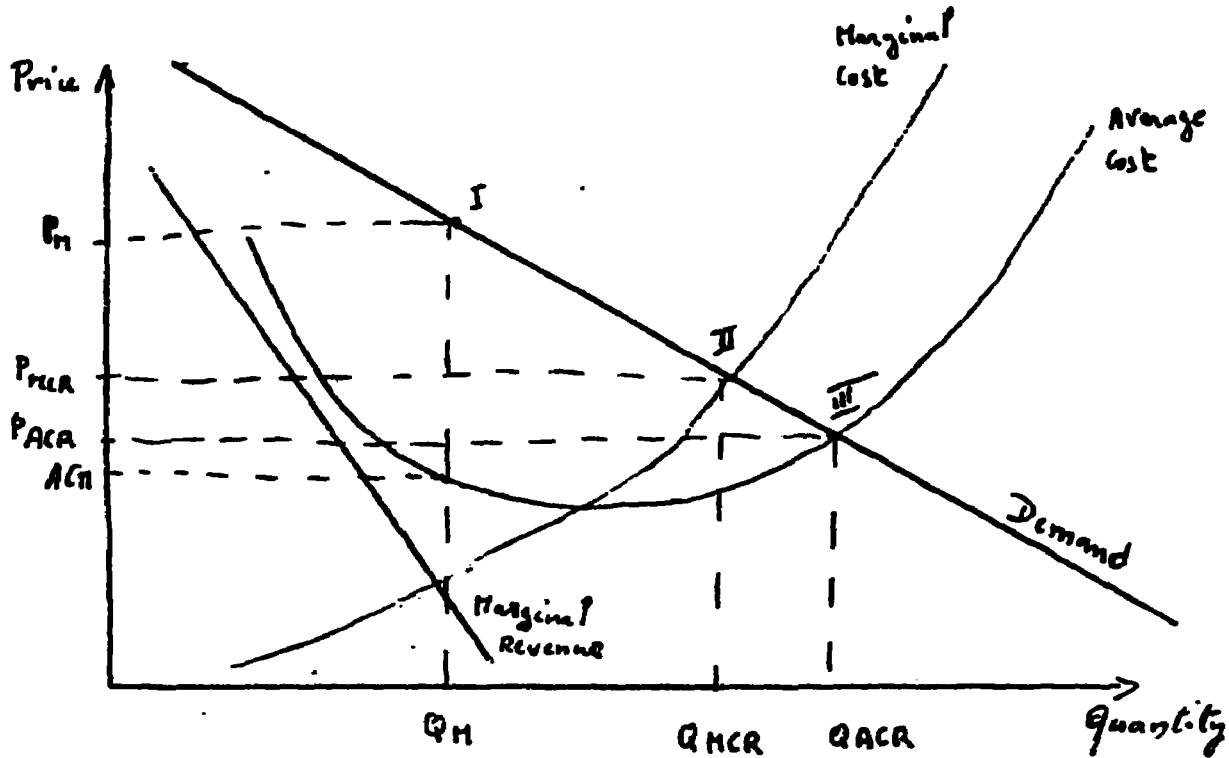
PRIX DE VENTE EN REGIME D'AUTO-HOMOLOGATION

| | | | |
|--|---|---|--|
| <p>PRIX DE REVIENT INDUSTRIELS (du produit)</p> | = | <p align="center">FRAIS DE MAIN D'OEUVRE NON ADMINISTRATIVE DU PRODUIT (à tirer de la fiche technique)</p> <p align="center">+</p> <p align="center">COUT DES MATIERES PREMIERES ET ACCESSOIRES DU PRODUIT (à tirer de la fiche technique)</p> <p align="center">+</p> <p align="center">FRAIS DE FABRICATION DU PRODUIT (calculés comme suit)</p> <p>Frais de fabrication du produit = K x Main d'œuvre directe du produit</p> <p>où ● K = $\frac{\text{Frais de fabrication annuels et globaux}}{\text{Main d'œuvre directe annuelle et globale}}$</p> <ul style="list-style-type: none"> ● Frais de la main d'œuvre directe du produit (à tirer de la fiche technique) ● Frais de la main d'œuvre directe annuels globaux (à tirer de la fiche répartition) ● Total frais de fabrication = <p>Coûts des matières consommables = (stock initial - stock final) + achat</p> | <p align="center">ou</p> <ul style="list-style-type: none"> ● Travaux d'entretien en réparation (compte 1032) - ● Petite outillages (compte 2032) + ● Fournitures faites à l'entreprise (compte 602) + <li style="padding-left: 20px;">- Eau (compte 611) + <li style="padding-left: 20px;">- Gaz (compte 613) + <li style="padding-left: 20px;">- Electricité (compte 6140) + <li style="padding-left: 20px;">(compte 6141) + <li style="padding-left: 20px;">(compte 6142) + <p>Intérêt des emprunts à long et moyen terme ayant servis à la réalisation de l'investissement + Amortissement ou loyer des locaux (compte 610 ou colonne 3 du tableau amortissement) + Amortissement matériels et outillages (colonne 4 du tableau du tableau amortissement) + Amortissement matériel de transport de marchandises (colonne 5 du tableau amortissement) + Amortissement agencements et installations de locaux de production (colonne 6 du tableau amortissement)</p> |
| <p>PRIX DE VENTE USINE (HT) (du produit)</p> | + | | |
| | | <p>MARGE = Taux de marge x (prix de revient industriel)</p> <p>+ EMBALLAGE COMMERCIAUX EXTERNES (à tirer de la fiche technique)</p> | |

Source: Ministère de l'Economie Nationale, Direction des Prix et du Contrôle. Economique, Guide des Producteurs Industriels Pour L'(Auto)-Homologation p.30

FIGURE 3

STANDARD MONOPOLY SITUATION



I. Unregulated Monopoly: Price is P_M and quantity Q_M , with profits = $(P_M - ACM) \cdot Q_M$

Result: Excess profits and production below optimal, Q_{MCR}

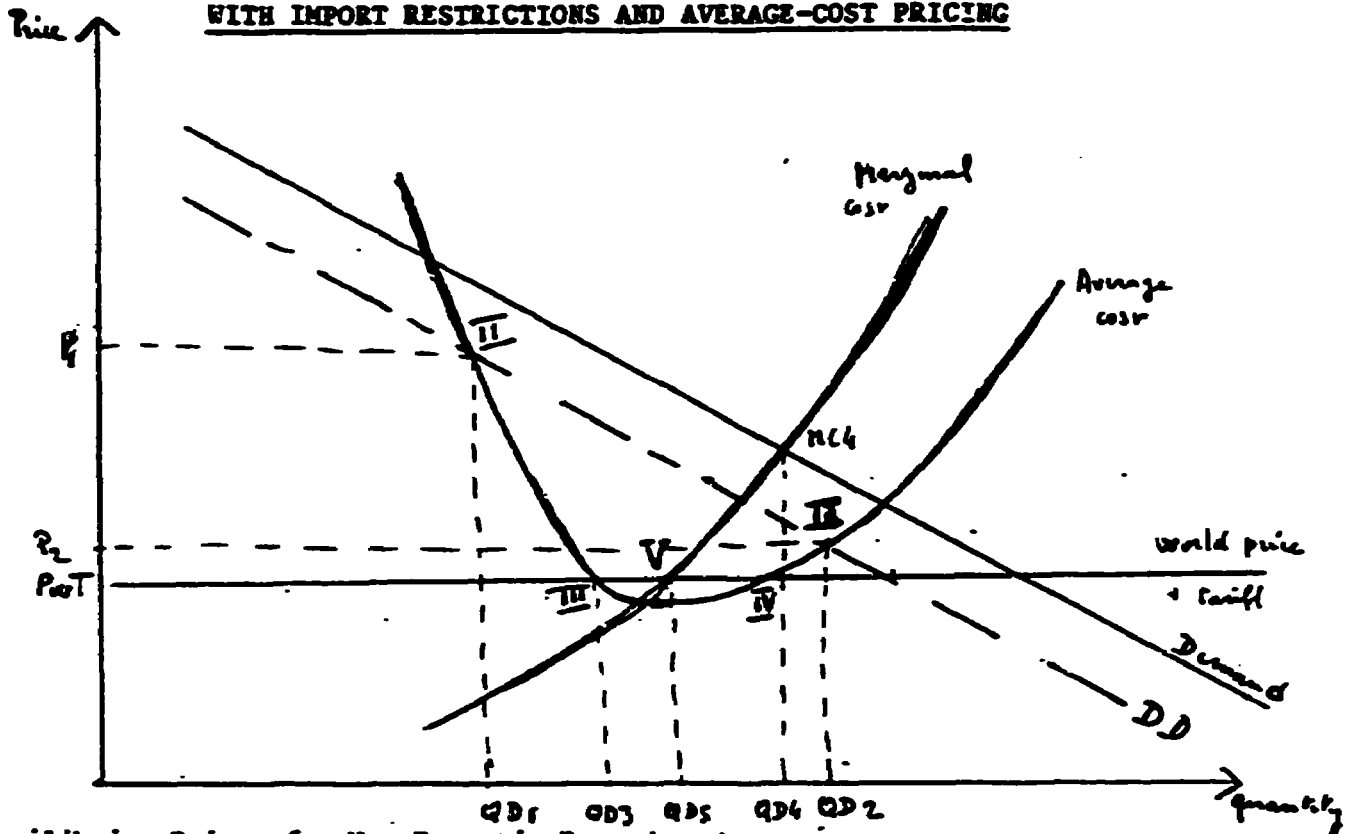
II. Marginal Cost Regulation: Price is P_{MCR} , quantity is Q_{MCR}

Result: Reduced profits per unit, production optimal since $P = MC$.

III. Average Cost Regulation: Price is P_{ACR} , quantity is Q_{ACR}

Result: - Zero excess profits (other than "normal" profits)
 - Production above optimal

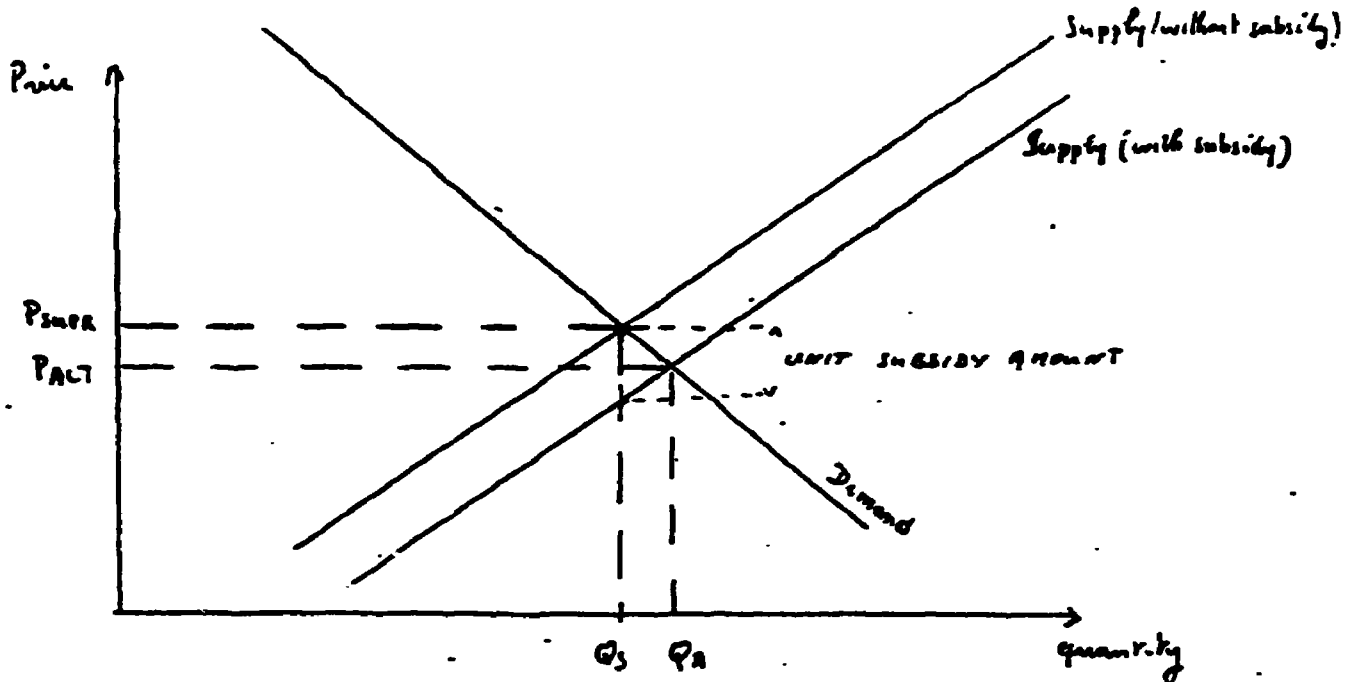
FIGURE IV:
LIKELY PRICE REGULATION EFFECTS IN TUNISIAN SYSTEM
WITH IMPORT RESTRICTIONS AND AVERAGE-COST PRICING



Equilibrium Points for Net Domestic Demand (DD)

- I: $P2$ & $QD2$: profit maximizing producer, especially under homologation formula, or possibly in case of capacity utilization adjustment.
- II: $P1$ & $QD1$: satisficing producer, especially so in case of auto-homologation formula.
- III: Pw & $QD3$: Unrestricted Imports, satisficing
- IV: Pw & $QD4$: Unrestricted Imports, profit-maximizing
- V: Pw & $QD5$: Marginal Cost Pricing

**FIGURE V: ESTIMATE OF SUPPRESSED INFLATION:
A PARTIAL EQUILIBRIUM APPROXIMATION**



A subsidy in effect lowers costs and the supply curve; prices are lower, and quantity higher. Without the subsidy price would be P_{SUPR} , less than the full amount of unit subsidy because supply and demand elasticities would give a lower quantity Q_S . The amount of inflation suppressed ($P_{SUPR} - P_{ACT}$) is related to the unit subsidy according to the relative elasticities.

Suppressed inflation = $1/2 (e_s/e_d)$ (unit subsidy). Demand elasticity tends to be low, especially for food, but in the Tunisian context of restricted competition, recent import restrictions and cost-plus pricing, so too will supply elasticity. Given the incomplete partial equilibrium nature of this estimate, it seems reasonable to simplify and assume supply and demand elasticities are equal. This gives the formula as used in the text, Table IV.

IV-3.

Appendix 1: A PARTIAL EQUILIBRIUM APPROXIMATION
OF LOSS DUE TO DISTORTIONS IN THE IME SECTOR

. Consider only inefficient branches "i", with $DRC_i > 1$

. (1) $DRC_i = \frac{\text{Domestic Resources Used in } i \text{ at shadow prices}}{\text{Value Added in } i \text{ at world prices}}$ (1)

$$DRC_i = DRU_i / VAI$$

(2) Loss in value added = $DRU_i - VAI = (1 - \frac{1}{DRC_i})$

(3) Total Loss in Value Added = $DRU_i (1 - 1/DRC_i)$

. But the above is likely an overestimate of potential gain with removal of distortions for two reasons: not all branches will become world efficient ($DRC = 1$); the value of DRC_i is likely to decline as less resources are used in i like marginal cost, hence the gain would be the area under the DRC curve, not the entire rectangle BCDE (see Figure below).

. Therefore as a rough approximation we take 1/2 of the rectangle;

(4) Estimated Loss in Value Added = $(.5) (DRU) (1 - 1/DRC_i)$

. Note that in a general equilibrium sense (3) is an under estimate because it ignores the effect of new resources coming into the IME sector either from other sectors or from underemployed resources.

TARIFS DE L'ELECTRICITE BASSE TENSION

Nota : DT = Dinar Tunisien - mill = millime tunisien - ab = abonnement.

| TARIF GENERAL BASSE TENSION | REDEVANCE DE PUISSANCE (HORS TP) | PRIX DE L'ENERGIE (Toutes Taxes Comprises) |
|--------------------------------|--|---|
| | 100 mill/kVA-mois | Tranche unique : 61 millimes/kWh |

| TARIFS SPECIAUX B T | REDEVANCE ABONNEMENT (HORS TP) | REDEVANCE DE PUISSANCE (HORS TP) | PRIX DE L'ENERGIE (Toutes Taxes Comprises) |
|---|--|--|---|
| Usages agricoles avec effacement en pointe | 700 mill/ab-mois | - | Postes horaires journaliers (*) : Jour : 32 millimes/kWh Nuit : 22 millimes/kWh Pointe : Effacement |
| Chauffe-eau | 400 mill/ab-mois | - | Postes horaires journaliers (*) : Hors pointe : 38 millimes/kWh pointe : Effacement |
| Chauffage et clima- tisation (tarif provi- soire) | 200 mill/ab-mois | - | Tranche unique : 56 millimes/kWh |
| Huileries et Moutures | 300 mill/ab-mois | 100 mill/kVA-mois | Tranche unique : 49 millimes/kWh |
| Eclairage Public | 500 mill/ab-mois | - | Tranches mensuelles de consommation de 0 à 60 kWh/kVA : 66 millimes/kWh au delà de 60 kWh/kVA : 46 millimes/kWh |

(*) Les postes horaires sont les suivants, pour tous les jours de la semaine à l'exception du Dimanche, dont la consommation est facturée uniformément au Tarif "Nuit".

| MOIS DE → | MAI A AOUT | SEPTEMBRE A AVRIL |
|-----------|---------------------|---------------------|
| Jour | de 8 h à 19 heures | de 7 h à 18 heures |
| Pointe | de 19 h à 23 heures | de 18 h à 22 heures |
| Nuit | de 23 h à 8 heures | de 22 h à 7 heures |

**TARIFS DE L'ELECTRICITE
EN MOYENNE ET HAUTE TENSION**

Notes : DT = Dinar Tunisien - mill = millime tunisien - ab = abonnement.

| TARIFS MOYENNE TENSION (30 kV, 15 kV, 10 kV) | REDEVANCE ABONNEMENT (HORS TP) | REDEVANCE DE PUISSANCE (HORS TP) | PRIX DE L'ENERGIE (Toutes Taxes Comprises) |
|---|--------------------------------------|--|---|
| à postes horaires | 15,000 DT / ab-mois | 2,000 DT/kW-mois | Postes horaires journaliers (1) Jour : 35 millimes/kWh Pointe : 58 millimes/kWh Nuit : 26 millimes/kWh |
| Uniforme | 2,500 DT / ab-mois | 0,200 DT/kVA-mois | Tranche unique : 46 millimes/kWh |

| TARIFS SPECIAUX MOYENNE TENSION | REDEVANCE ABONNEMENT (HORS TP) | REDEVANCE DE PUISSANCE (HORS TP) | PRIX DE L'ENERGIE PAR POSTES HORAIRES JOURNALIERS (1) (Toutes Taxes Comprises) |
|---|--------------------------------------|--|--|
| à usages agricoles avec effacement en pointe | 2,500 DT / ab-mois | 2,000 DT/kW-mois | Jour : 35 millimes/kWh Nuit : 26 millimes/kWh Pointe : Effacement |
| Tarif MT secours | 15,000 DT / ab-mois | 1,000 DT/kW-mois | Jour : 47 millimes/kWh Pointe : 67 millimes/kWh Nuit : 29 millimes/kWh |

| TARIFS HAUTE TENSION | REDEVANCE ABONNEMENT (HORS TP) | REDEVANCE DE PUISSANCE (HORS TP) | PRIX DE L'ENERGIE PAR POSTES HORAIRES JOURNALIER (1) (Toutes Taxes Comprises) |
|--------------------------------|--------------------------------------|--|---|
| Tarif Général Haute Tension | - | 1,000 DT/kW-mois | Jour : 31 millimes/kWh Pointe : 46 millimes/kWh Nuit : 24 millimes/kWh |
| Tarif HT secours | 30,000 DT / ab-mois | 0,500 DT/kW-mois | Jour : 33 millimes/kWh Pointe : 63 millimes/kWh Nuit : 26 millimes/kWh |

(1) Les postes horaires sont les suivants pour tous les jours de la semaine à l'exception du Dimanche, dont la consommation est facturée uniformément au Tarif "Nuit".

| MOIS DE → | MAI A AOUT | SEPTEMBRE A AVRIL |
|-----------|---------------------|---------------------|
| Jour | de 8 h à 19 Heures | de 7 h à 18 Heures |
| Pointe | de 19 h à 23 Heures | de 18 h à 22 Heures |
| Nuit | de 23 h à 8 Heures | de 22 h à 7 Heures |

CORRESPONDENCE OF ENGLISH AND FRENCH TERMS

IN COST FORMULAS

| | | |
|---|---|---|
| Average Production Cost | - | Prix de revient industriel |
| Total Production Cost | - | Prix de revient industriel |
| Total Production Labor Costs | - | Coût de main d'oeuvre |
| Direct Labor Costs non-administratif | - | Main d'oeuvre directe |
| Raw Material Costs | - | Coût des matières Premières et accessoires |
| Indirect Production Costs | - | Frais de fabrication du produit |
| Total indirect production costs | - | Frais de fabrication globaux |
| Indirect materials | - | Matières consommables |
| Repair & maintenance | - | Entretien et réparation |
| Small tools & equipment | - | Petits outillages |
| Utility costs | - | Furnitures à l'entreprise |
| Finance charges | - | Intérêts sur emprunts |
| General overhead & administrative costs | - | Frais généraux |
| Invested capital | - | Capital propre |
| Factory sale price | - | Prix de vente usine |