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STUDY OF AVAILABILITY AND PRICE OF DRUGS IN ALGERIA

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HEALTH FINANCING AND SUSTAINABILITY (HFS) PROJECT

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ABSTRACT

This report presents the results of a study conducted in 1993 on the issues of price and availability of drugs in Algeria. Data are based on surveys of pharmacies and hospitals as well as interviews with health professionals in the public and private sectors.

The study examines the nature of drug shortages by looking at problems in drug importation and distribution networks. It describes factors related to price increases and disparities in prices. There is extensive comparative data between public and private enterprises in the drug sector. The recent emergence of the private sector in drug importation and distribution is assessed for its impact on price levels and availability of drugs.

The study's conclusions provide details on how availability problems are related not to a drop in imports, but to specific problems in the wholesale and retail distribution networks. Large increases in drug prices are shown to result from both monetary devaluations and the increasing commercialization of the drug sector, which is detailed in data on profit trends, generic vs. brand name imports, expansion of retail pharmacies, and import monopolies.

Because many of these problems were aggravated by the shift from a planned to a market economy, the study suggests ways in which regulatory mechanisms can exist in a market economy and how the public sector can increase its responsibility in management of the drug sector.

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LIST OF EXHIBITS

ACRONYMS

ACP	Algerian Central Pharmacy
APL	Algerian Pharmaceutical Laboratory
AR	Applied Research
CANS	National Social Insurance Fund
CAP	Central Algerian Pharmacy
CHU	Centres Hospitalo-Universitaires
CNP	National Council of Planning
ENCOPHARM	Pharmaceutical importer and distributor based in Constantine
ENAPHARM	Parmaceutical distributor based in Algiers
ENOPHARM	Pharmaceutical distributor based in Oran
HFS	Health Financing and Sustainability
INSP	National Institute of Public Health
MECPI	Ministry of Energy and Chemical and Petrochemical Industries
NCC	National Chamber of Commerce
ONS	National Office of Statistics
SNIP	National Association of Pharmaceutical Industries
TH	Teaching Hospital
Wilaya	Department
Wali	The Prefect of the Department

FOREWORD

The Health Financing and Sustainability (HFS) Project provides technical assistance and training, conducts applied research, and disseminates information to developing countries in health economics, health sector policy development, and health services management. The Applied Research (AR) component of the project provides opportunities to increase knowledge of the complex issues underlying health financing problems and augments the supply of qualified individuals who can contribute to policy analysis and reform. HFS has emphasized the following policy areas for applied research activities: cost recovery, productive efficiency, social financing, and private sector development in the health sector.

As part of the project's AR component, HFS will have completed almost 30 small applied research (SAR) activities between 1989 and 1994. These include studies undertaken by developing country researchers, HFS researchers, or academics at universities in the United States. The objectives of the SAR program are to carry out practically-oriented research in developing countries, and to encourage the development of local capacities to undertake research.

Most SAR activities have been initiated through proposals to the HFS Project. The proposals are evaluated by HFS staff, including criteria such as: practical policy orientation, resource and time requirements, and appropriateness to the HFS research agenda. Most proposals for SAR activities accepted by HFS have undergone several revisions, as the researchers refined their research objectives, hypotheses, and methodologies, based on suggestions and comments from the HFS staff. Once approved, SAR activities have been overseen by HFS task managers, who work closely with principal investigators to monitor the timeliness and quality of the work, and facilitate logistics.

Other small applied research studies are done in conjunction with technical assistance or major applied research activities of the HFS Project. In these cases, the SAR contributes to the technical guidance provided to clients or adds to the body of knowledge on topics of health financing and economics.

As with all HFS research, drafts of small applied research reports are reviewed by HFS staff. Drafts are then evaluated by external technical reviewers selected on the basis of area of substantive and/or geographic expertise.

Ricardo Bitran
Director of Applied Research

EXECUTIVE SUMMARY

THE CONTEXT OF THE STUDY

Algeria has been engaged, since the late 1980s, in a vast program of economic reforms. The objective of these reforms is to implement market rules in all sectors of economic and social activities. This study took place in the context of a transitional period from a planned to a market economy.

On the economic level, Algeria is facing very serious financial constraints. The fall in external revenues, as a result of the decrease in price of oil and gas, has compounded the problem of external debt. The price of a barrel of oil dropped from $30 in the early 80s to less than $16 in 1993.

SOME ECONOMIC INDICATORS IN ALGERIA IN 1993
(in billions of US dollars)

	1992	1993
Exports of goods and services	12.11	12.04
of which petroleum	11.06	10.90
Imports of goods and services	9.93	9.96
of which merchandise	8.05	8.03
Debt service/Exports in %	77.80	77.60
Medium and long term debt	25.21	23.74

Source: National Council for Planning and Bank of Algeria.

It is in the context of constraints on external revenues that an adjustment program has been initiated. The strategic axes of the new economic policy are:

Monetary Policy:

Very important devaluations were effected.

EVOLUTION OF AVERAGE EXCHANGE RATES BETWEEN 1986 AND 1992 (AD/US$)

1986	1988	1990	1991	1992
4.7	5.92	8.96	18.67	22.16

Source: Bank of Algeria

Prices:

A 1989 law ended the regime of administered prices. There are two types of prices: regulated prices and free prices. Regulated prices are those for which a ceiling is imposed on both production and distribution profit margins. Each year, products which fall under the price regulation scheme are transferred to the free pricing scheme. Drugs fall under the regulated price scheme.

The Liberalization of the Economy:

A law on money and credit has put an end to the state's monopoly on foreign trade. Private capital, both national and foreign, can be invested in practically all sectors of economic activity. The pharmaceutical sector is open to the private sector in the fields of production, importation, and wholesale distribution.

THE OBJECTIVES OF THE STUDY

The objectives of the study are the identification and analysis of the changes that occurred during this period in the pharmaceutical sector. Two parameters are studied: prices and availability of drugs. The central questions that are asked are the following:

- What is the impact of the intervention of the private sector in the fields of importation and distribution on the price level and on the availability of drugs?
- What are the factors behind the increase and the disparity in prices of drugs?
- Are availability problems related to a decrease in imports or to operational problems in distribution at both the wholesale and retail levels?
- What is the magnitude of the shortage of drugs? How do shortages manifest themselves at the level of the various distribution circuits and at the regional level?
- What are the factors that compound shortages?
- What types of answers are currently proposed by the pharmaceutical sectors, both private and public?

METHODOLOGY

The study is based on a survey of public and private pharmacies as well as hospitals. This survey used questionnaires complemented by a series of interviews with various economic agents. These are:

- The Ministry of Health
- The Ministry of Economy
- Public and private import enterprises
- Public and private retailers
- The Social Security entity

Two questionnaires were used to gather information:

- One questionnaire for pharmacies: it included a list of 74 drugs about which information on prices and availability was asked.
- One questionnaire for hospitals: this one did not include a list of drugs. Officials in surveyed hospitals were asked to specify a list of drugs that they consider to be strategic for the functioning of their services.

THE SURVEY FIELD

Pharmacies

Thirty-three (33) pharmacies were surveyed:

Algiers:	12 pharmacies
Department of Tizi-Ouzou:	10
the Oran region:	7
the Constantine region (town of Setif):	4

Hospitals

Algiers:	1 Teaching Hospital (TH) and one hospital specializing in infectious diseases.
Tizi-Ouzou:	1 TH, one specialized hospital (anti-tuberculous) and 2 district hospitals.
the Oran region:	1 TH and 1 district hospital.

THE SURVEY RESULTS

On Availability Problems

The study shows that:

- The absolute shortage (total absence of a product from the entire distribution network and from all regions) applies only to a very small portion of the drugs in the sample (less than 10 percent). When a product is out of stock in one pharmacy, it is often available in other pharmacies in the same or maybe another geographic area.
- The private pharmaceutical distribution sector is characterized by a greater availability of products. Whereas state pharmaceutical agencies are supplied by public enterprises only, private pharmacies get their supplies from both private wholesalers and public enterprises. They also exchange products. Products available in the West of the country, for example, and out of stock in the Center, are exchanged for products available in the Center and out of stock in the West. According to pharmacists, those practices would apply to almost 30 percent of their sales.

- Hospitals face serious stock disruptions that hinder the normal operation of their services. These stock disruptions affect even specialized hospitals who use a limited selection of drugs. Availability in hospitals varies also according to their location. Again, as it is the case at the level of pharmacies, drugs are generally more available in the hospitals of the region of Algiers.
- The factors explaining supply problems are related to the disorganization of both wholesale and retail distribution networks. Distribution networks are having to cope with a rapid increase in the number of private pharmacies (3,523 pharmacies at the end of 1992) and the establishment of more than 140 private wholesalers in less than 2 years.

EVOLUTION OF THE WHOLESALE AND RETAIL DISTRIBUTION NETWORK BETWEEN 1974 AND 1992
(in number of pharmacies and wholesalers)

	1978	1990	1991	1992
Pharmacies	699.0	2,240.0	2,954.0	3,523.0
(of which private, in %)	39.3	58.4	65.5	66.7
Wholesalers	1.0	3.0	3.0	142.0
(of which private, in %)	0.0	0.0	0.0	97.8

* The number of private wholesalers in 1991 is unknown.

Stock disruptions are not related to a significant drop in imports, but rather to the supply policy followed by both public and private import enterprises. The latter do not work by therapeutic classes of drugs, but rather by individual brand names.

The other aggravating factors are the inadequacy of information on available drugs and the prescribing habits of private general practitioners. Poor knowledge of pharmacology combines with the habit of prescribing French brands. A given brand might be out of stock, whereas its generic equivalent exists; the drug is nevertheless considered in shortage.

Drug Prices

Price increases and discrepancies

Drug prices have increased by 600 percent between 1988 and 1989. The price of certain drugs has increased tenfold during that period.

Prices of drugs depend on areas and suppliers. Drugs sold by the private sector are systematically more expensive. The prices of drugs sold by the public sector have also increased.

Causes of price increases and disparities

Generally speaking, the increases in the price of drugs do not result from monetary devaluations alone. The following factors have been identified as other potential causes:

- The purchase of pharmaceutical brands. Generics represent only a small proportion of imported products.
- A decrease in the bargaining power of public import enterprises. They individually negotiate prices in international markets and therefore are not able to take advantage of the size of the Algerian market.
- The obligation that importing enterprises have to confine their imports to the already existing lines of credit limits the sources of supply. According to the Ministry of Economy, 80 percent of drugs have been imported from France in 1992.
- The import policy of the private sector. The Algerian Pharmaceutical Lab (APL), which accounted for 29 percent of total imports in 1992, has a tendency to import the most expensive brands.
- Maintaining a system of relative profit margins induces imports and sales of the most expensive drugs.
- Lack of competition among various importers. In fact, enterprises share the market between them and hence create monopolistic conditions.

The Conclusions of the Study

Problems of shortages and price increases can be greatly reduced. Solutions that are currently proposed by public authorities are of an administrative nature. The restructuring of the system of commercial profits and drug reimbursements are the currently advocated measures. They may, however, have very little impact on the availability and prices of pharmaceutical products.

Regulatory economic instruments and mechanisms are given little consideration. The debate about the role and prospects for change in both public and private sectors has not yet been clearly engaged.

The creation of both a public warehouse for drugs and a central pharmacy for hospitals does not solve the problem of how the public and the private sectors work together.

The recommendations of the study are as follows:

- The opening up of the sector to private capital. Creating competitive conditions among private agents is a necessary condition for a reduction in both import and consumption prices.
- The role of the public sector must be clarified. Public enterprises can play a regulatory role if they group their purchases. They also have to import the cheapest quality controlled drugs. The imports must be limited to essential drugs.

- The adoption of a nomenclature of drugs based on high priority needs. Improving the Directorate of Pharmaceuticals and developing the information network, so that information becomes more accessible to both prescribers and consumers, are prerequisites to the effectiveness of these reforms.
- A wider exploration of international markets to avoid being limited to French products.
- The use of economic instruments (price, credit, exchange rate, fiscal policies...) to encourage import substitution, partnership with foreign capital, and the regulation of prices and consumption.

The main conclusion of the study is that regulatory market mechanisms can coexist, in the drugs sector, with reinforced public responsibilities.

1.0 THE CONTEXT OF THE STUDY

This report presents the results of a study conducted between March and September 1993 on the issues of prices and availability of drugs in Algeria. The analysis and conclusions are the results of empirical observations. Although other references have been used, the basic data come from a direct survey of pharmacies and hospitals. Data obtained from questionnaires were complemented by interviews with heads of public and private enterprises, pharmacists, and officials in the concerned Ministries. Their assessment of the sector's conditions, particularly prices and shortages, has helped not only to shed light on some of the major current problems, but also to measure the disparities between reality and perception.

Before presenting an analysis of the situation and the main conclusions drawn from it, it may be useful to present some information on the context of the study. This will permit a better assessment of the objectives and limitations of this research.

The relevance and feasibility of pharmaceutical policy depend essentially on the way current socioeconomic conditions are analyzed. Some general economic parameters are important in explaining the analysis and its conclusions. Hence, the following will be addressed:

- **General economic conditions:** Macro-economic insights are necessary in order to understand the major constraints facing the pharmaceutical sector.
- **The transition toward a market economy:** This process is complex. For three decades, a planned economy has been in place. All strategic decisions (investment, price and income policies, exchange rate policy, employment and wage policies, social policies, etc.) have been taken by the central authorities "in a voluntarist way." Market rules as well as the rules concerning investment productivity have been ignored.

The pharmaceutical sector has been indirectly affected by this general situation. A tendency to reestablish market rules was started in the early 80s. Decisions on economic reforms were made without adequate attention to public opinion and the rigidity of the administration and its institutions. The way by which the transition is taking place explains why a certain number of disorders are not attributable merely to a reduction in external revenues. The decision to open up markets to both foreign and national private capital, as well as the application of the law on money and credit which ends public monopoly on foreign trade, explains some of the operational problems and contradictions seen in the pharmaceutical sector. The unfolding of the privatization process and the mode of access to external markets will be elements of the analysis.

- **The characteristics of the health system**: the drug market is intimately related to the dynamics of the health care system. Drugs are not a common commodity. The volume and the nature of pharmaceutical consumption are related to the level of resources and epidemiologic facts, but also to the health care system and the behavior of drug manufacturers and sellers.

The choice for curative rather than preventive medicine has a direct influence on the level and nature of the demand for drugs. The size and pattern of distribution of health infrastructure, the number of prescribers, and their practicing habits have an essential impact.

The case of Algeria is even more interesting since it is one of the countries with an intermediate level of income that benefits from extensive infrastructure and human resources in the health sector.

1.1 THE ALGERIAN ECONOMY IN THE EARLY 90s

The period extending from the early 70s to the mid 80s was one of high growth in Algeria. A rate of investment of the order of 50 percent of GDP brought a rapid fall in unemployment and very high income growth. From 30 percent in the late 60s, the unemployment rate fell rapidly to less than 15 percent in the late 70s. Without going into much detail, a few elements are worth clarifying:

- Investment and job creation are mainly due to the public sector. Until the mid 80s, 80 percent of jobs were created on average by government.
- Growth in production, employment, and income is essentially due to the set-up of new production units, while the productivity of both capital and labor evolve unfavorably. Imports give an impetus to and sustain the new consumption pattern that is taking shape, essentially owing to the expansion of the domestic market. The increase in the prices of oil and gas, the almost unique sources of foreign currencies, and the ease of mobilization of foreign credit, are the bases for the development of a lax attitude in the management of the economy, especially in the management of external balances. The creation of money without a counterpart in production and the systematic over-valuation of the exchange rate are illustrations of this lax attitude. Along with this attitude, however, there is the embedded idea that the public sector is the only guarantor of individual and collective interests. Hence, attempts at economic reform are expected to face a fierce opposition from those who consider liberalization as an attempt to contain the national economy. However, the public sector, which holds the core of capital stock, is in a state of chronic deficit.
- The private sector expanded in all activities that were neglected by the public sector. Paradoxically, the private sector benefited during the entire period from the growth in public investments. With the help of the large increases in incomes, and the protection of the domestic market, the private sector invested in consumption goods. Food industries (biscuits and lemonade factories...) and textile industries (weaving, manufacturing...) were secure and highly profitable investments, especially given that input prices were indirectly subsidized by the exchange rates and by the disregard given to real production costs by public enterprises. The Investment Code of 1966, although restrictive since most activities were legally or de facto public monopolies, leaves ample room for maneuver to private entrepreneurs.

The mid 80s were characterized by trends in rapidly falling oil prices. From more than $30 in the early 80s, the price of a barrel of oil rapidly dropped to less than $16 in 1993. Concurrently, foreign financial markets were tightened and credit mobilization became problematic. The effects on the Algerian economy were immediate. The general program of imports has since been managed in a framework of hard foreign constraints. The external debt became the primary concern of the economic authorities. Enterprises faced restrictions in the import of raw materials and replacement parts. These supply restrictions aggravated further the deficits of public enterprises whose productivity levels were already very low. The following tables give some indications of the general economic situation and the burden of external debt servicing.

EXHIBIT 1-1
EVOLUTION OF THE ECONOMY BETWEEN 1990 AND 1991
(in billions of AD)

	1990	1991	PERCENTAGE OF GROWTH	
	Value	Value	Volume	Price
PRODUCTION				
Agriculture	51.9	85.5	35.0	22.0
Hydrocarbons	127.0	234.0	1.4	81.7
Industry	57.5	82.6	-3.2	48.4
Construction	73.6	101.6	-8.0	50.0
Services	109.0	151.3	-0.2	39.1
Total Value Added	419.1	654.9	-2.9	51.9
"TUGP"[1] and custom duties	43.5	72.8	-15.1	97.1
GDP	462.6	727.7	1.2	55.4
Administrative services and others	72.0	96.5	3.7	29.2
GNP	534.6	824.2	1.5	51.8
RESOURCES/EMPLOYMENT EQUILIBRIUM				
Imports of goods and services	138.6	197.9	-18.3	74.8
Exports of goods and services	126.8	237.1	1.2	55.4
Final consumption	301.4	433.1	13.1	27.1
Gross accumulation of fixed funds	152.2	222.3	-16.3	70.9
Stock variations	17.7	33.0	1.6	83.5

Source: "CNP" (National Council of Planning), Revue Conjoncture, no. 9 and 10, Algiers, May 1992
[1] "Taxes Uniques Globales a la Production" which is a type of manufacturing tax

EXHIBIT 1-2
RATE OF UTILIZATION OF PRODUCTIVE CAPACITIES BY BRANCH OF ACTIVITY

Branch of Activity	Rate of capacity utilization (%)
Geology, mines and quarries	30
Iron and steel and metallurgy	54
Mechanical and Metallic	55
Electric and Electronic	55
Chemicals-Pharmaceuticals	36
Construction Materials- Glass	64
Agriculture and Food	75
Textile, apparel, leather	56
Wood, paper and others	34
Total	56

Source: "Revue Conjoncture," no. 15, Algiers, May 1993.

The above data show a stagnation, if not a decrease, in production in some activity branches. The apparent reason for these low rates of productive capacity utilization is the decrease in the supply of raw materials. Between 1991 and 1992, supplies increased by 13 percent in value but decreased by 10 percent in volume. However, the decrease in the supply of raw materials is not the only cause of the decrease in production. More detailed analyses show that deficiencies in supply management are also a factor behind the production problem. Enterprises might hold very important stocks of a given product and no stocks of other products. Thus, mismanagement aggravated the effects of the already heavy foreign constraints.

EXHIBIT 1-3
SOME DATA ON THE FOREIGN PAYMENT CONSTRAINTS
(in billions of US$)

	1992	1993
Exports of goods and services	12.11	12.04
of which petroleum products	11.06	10.90
Imports of goods and services	9.93	9.96
of which merchandises	8.05	8.03
Debt service (including IMF)	-9.42	-9.34
Ratio service/debt (including IMF) Exports in %	77.8	77.6
Medium- and long-term debt	25.21	23.74

Source: National Council of Planning and the Bank of Algeria.

The increasingly deteriorating social conditions further aggravated the problems of investment financing and operating expenses of enterprises. A relevant indicator of this deterioration is the employment situation.

EXHIBIT 1-4
DATA ON EMPLOYMENT AND UNEMPLOYMENT

	1991	1992	1993
Active population (in thousands)	6,045.0	6,275.0	6,513.0
Jobs (in thousands)	4,822.0	4,902.0	5,000.0
Unemployment rates (in %)	20.2	22.0	23.2

1.2 THE TRANSITION TOWARD A MARKET ECONOMY: THE OBJECTIVES, THE MEANS. WHAT CONTRADICTIONS?

It is in this particular context of falling external resources that the process of transition toward a market economy was accelerating. The way this transition was being managed is a key element to understanding the problems specific to developing countries with a planned economy.

Development economists, including health economists, tend to underestimate the burden of social and administrative inertia. However, this is sometimes a key determinant of the failure of adjustment policies. The analysis of these determining factors is therefore essential to identify whether current problems are related to a reduction in resources or rather to the slow adaptation of administrations and economic agents who are neither prepared nor sensitized to the necessities and the strategic objectives of the transition.

The process of economic liberalization is not a recent one. Despite the unofficial nature of the objectives of the opening up of the Algerian economy, it is safe to assume that an active trend for the liberalization of the economy had already started in the early 80s.

The accumulation of large fortunes in the public sector, especially with the increases in petroleum prices and the rapidly expanding investments, had much to do with this trend reversal. It is, nevertheless, a process of administered liberalization. The 1982 law known as 92.11 relative to national private investment is effectively implemented by the administration. National and departmental assessment commissions decide on investment opportunities on the basis of criteria set by the central administrations of ministries. In addition to the public monopoly on foreign trade and on most activities (especially the pharmaceutical field), assessment committees decide on whether an investment is a priority or not. It is, in other words, a **planned liberalization**. During this period, the wealthy became wealthier, not because of better management skills but through personal connections. Once agreement is obtained from the commission, an investment project has to be implemented. Given the ruling exchange rate (1 Dinar= approximately 1.40 French Francs in the early 80s), applications for imported equipment were numerous. Obtaining access to this equipment, or even to raw materials, was through either public enterprises who hold the monopoly for imports or through import licenses granted by the ministerial commission.

Despite the fall in petroleum prices since the mid 80s, private investment was governed by administrative rules. The tightening of the constraint of foreign means of payments has simultaneously increased the fixing of quotas of imports. The law 88/02 of 1988 concerning priority private investment led, more or less, to the same procedures and the same problems. The foreign currency budget allocated to the private sector (for purchasing equipment or raw materials) was managed by the National Chamber of Commerce (NCC) by means of import licenses allocated on the basis of priority criteria that are decided in the context of the annual plan. The establishment of committees to grant licenses shows that public authorities were hesitant and indiscriminate in the process. These commissions were in fact constituted by representatives who were elected by the private sector and by officials from the NCC. This bicephalous organization, which is neither public nor private, is primarily challenged by private entrepreneurs who accuse their representatives of favoring specific applications without due regard to the law.

The end of 1988 was a particularly disturbed period. Violent riots in most major cities ended up with hundreds of victims. A new constitution was passed in order to put an end to the rule of the unique party. It is in the context of these troubles that the system of planned management was increasingly criticized. The system was accused not only of having failed to reach its social objectives but also of having led to the squandering of resources and to wealth accumulation by means of connections and influence peddling.

A team of technocrats, already at work at the presidency of the republic, increased its efforts to introduce liberalization measures which were, until then, difficult to envisage. The essential elements of these measures were:

- The passing of the law on money and credit in early 1990. A law on the autonomy of public enterprises, promulgated in 1988, aimed at liberating enterprises from the tutelage of central administrations. Because of the financial difficulties of public enterprises and the continuation of the administrative practice of allocating resources in foreign currencies, this law had little effect in practice.
  The law on money and credit is radical. On the one hand, it definitively ends public monopoly of foreign trade. On the other hand, it allows all capital, both domestic and foreign, to be invested in almost all activities whether directly or through mixed corporations. Interested agents are, however, required to invest part of their profits in activities of production of goods and services. The autonomy of the Bank of Algeria is guaranteed by this law.
- Monetary policy becomes the first instrument of economic policy. The voluntarism that had governed the management of money supply, especially exchange rate policy, was substituted by an affirmed will to control the creation of money and to reestablish the national currency's real purchasing power. For the first time since independence (1962), real economic constraints became of concern in the management of social and economic equilibria. Successive devaluations took place between 1989 and 1991. Within three years, the devaluations reached the order of 400 percent with respect to the French Franc. This policy was surprising, both in terms of its magnitude and speed, to all economic agents and social partners. It is very interesting to note that no social unrest was directly triggered by the rise in domestic prices.
- The solvency of economic agents, both public and private, became the primary criterion for access to credit and operations related to foreign trade. A regulation issued by the Bank of Algeria in May 1991 brought to an end the discrimination between the public and private sectors concerning procedures for import financing. The only criterion that banks for import operations had to conform to was solvency. Prime banks could henceforth require all or part of the dinar counterpart of foreign purchases. Procedures to gain access to foreign currencies were hence the same for both public and private enterprises.

This daring policy, initiated and led by the Bank of Algeria independently of ministerial departments, ignored or pretended to ignore the structural problems of public enterprises (indebtedness, treasury problems...). Elected for a period of five years, the governor of the Bank of Algeria is, in principle, granted a significant degree of autonomy in the conduct of monetary policy. The slogan "ca passe ou ca casse"[1] is assimilated simultaneously to an open struggle against the inertia of a planned economy as well as to a wager on the success of the rapid transition toward a market economy.

It is in this context that the pharmaceutical sector is evolving. The problems and contradictions that emerge must be put in that context. In fact, it is not easy to find regulatory instruments that would strike a balance between the strict application of profitability rules and the social requirements in certain sectors (such as the pharmaceutical industry). One of the central hypotheses of this study is to show that this is not impossible, however.

[1] Roughly translated as "it goes through or it will break."

This background about general economic conditions might seem unwarranted. It is, however, of necessity for the comprehension of the contradictions and constraints in this transitional period. How can the transition toward a market economy take place rapidly when the currency is not convertible, when foreign financial constraints are increasingly binding, and when, therefore, government interventions become necessary?

The complexity of these questions partly explains the disarray of the authorities in the face of disruptions that are difficult to contain. The numerous problems that are emerging (availability of certain so-called luxury goods and frequent and prolonged shortages of strategic goods, such as drugs) create a dilemma to the authorities: should they continue the reforms, engage in serious political troubles and run the risk of facing more and more violent social unrest, or should they hold back and jeopardize the process of change that all experts agree is impossible to avoid? Between these two extremes, regulatory means are still conceivable. But their identification requires a rigorous analysis of the situation and a careful observation of the dysfunctionings and their real causes. Avoiding an empirical analysis will ultimately lead to false remedies, and, in the long run, to higher economic and social costs.

1.3 THE HEALTH SYSTEM: ADVANTAGES AND CONSTRAINTS

The health system is the first parameter to take into consideration, when the objective is to control pharmaceutical consumption. Depending on the regulatory instruments to be put in place, it can represent either an asset or a liability.

At both the infrastructure and the human resources levels, Algeria seems to be well endowed relative to countries with similar income levels.

1.3.1 Infrastructure

At the end of 1992, there were:

- 180 hospitals representing 30,443 beds;
- 11 public clinics with 766 beds;
- 13 teaching hospitals (CHU for 'Centres Hospitalo-Universitaires') with a capacity of 16,390 beds;
- 19 specialized hospitals with a capacity of 5,469 beds.

One should add to this heavy infrastructure, organized in health districts, 382 public maternities, 48 private maternities, 450 polyclinics, 1,111 health centers and 3,757 medical care centers.

Despite the high concentration of heavy infrastructure in urban centers, most areas enjoy modern medical care facilities. The distribution of the various health-related establishments by department[2] shows the geographic distribution of medical care infrastructure.

[2] Administrative division of the Algerian territory, known as wilaya

EXHIBIT 1-5
DISTRIBUTION OF HEALTH INFRASTRUCTURE BY WILAYA (DEPARTMENT) IN 1992
(excluding teaching and specialized hospitals, health and medical care centers)

Department	Hospitals	Clinics	Polyclinics	Beds/1,000 inhabitants
Adrar	3		5	1.81
Chlef	6		17	1.19
Laghouat	3		6	2.65
Oum El				
Bouaghi	5		12	2.14
Batna	6		17	2.30
Béjaïa	8		18	1.51
Biskra	5	1	13	1.66
Bechar	3		7	3.19
Blida	3		10	3.09
Bouira	5		6	1.53
Tamanrasset	2		3	1.48
Tebessa	7	1	10	1.73
Tlemcen	4		17	1.82
Tiaret	5	2		2.52
Tizi-Ouzou	7		13	2.34
Alger		2	42	3.78
Djelfa	5		8	1.68
Jijel	3		7	1.83
Setif	4		14	1.87
Saida	1		6	2.27
Skikda	6	1	12	1.81
Sidi				
Bel Abbes	3		6	2.10
Annaba	2		9	2.84
Constantine	2		19	3.07
Médéa	6		6	1.31

(continued on next page)

EXHIBIT 1-5
DISTRIBUTION OF HEALTH INFRASTRUCTURE BY WILAYA (DEPARTMENT) IN 1992
(excluding teaching and specialized hospitals, health and medical care centers)

Department	Hospitals	Clinics	Polyclinics	Beds/1,000 inhabitants
EXHIBIT 1-5 DISTRIBUTION OF HEALTH INFRASTRUCTURE BY WILAYA (DEPARTMENT) IN 1992 (excluding teaching and specialized hospitals, health and medical care centers)				
M'sila	4	1	14	1.55
Mascara	8		7	1.52
Ouargla	3	1	6	2.30
Oran	2		15	2.56
El Bayadh	2		4	1.80
Illiza	2		1	4.93
B.				
B. Arreridj	4		6	1.63
Boumerdes	2		9	1.32
El Tarf	3		5	1.10
Tindouf	1		1	4.25
Tissemsilt	3		5	1.96
El Oued	3		6	1.00
Khenchella	3	1	5	2.25
Souk Ahras	3		5	1.87
Tipaza	3		14	3.02
Mila	5		7	1.66
Ain Defla	5		9	1.82
Naama	2		3	2.69
Ain				
Temouchent	3		4	2.34
Ghardaïa	4		6	2.02
Relizane	4		10	1.65
TOTAL	180	11	450	2.14

Source: Derived from data from the Ministry of Health, 1992.

Already of importance at the time of independence, hospital-related infrastructure has significantly expanded, particularly during the 80s. The existence of around 30 readily operating hospitals was accompanied by large imports of heavy equipment, sometimes of a sophisticated nature.

No detailed study of the productivity of this important infrastructure has been undertaken. Despite a slight improvement in the health information system, the health system still lacks openness, which constitutes one of the principal obstacles to improving its efficiency. The distribution of infrastructure by wilayas (departments) indicates that important progress has been realized in deprived areas, but this has been accomplished with some excess. With an average occupancy rate of 43 percent, these facilities are far from profitable. The lowest occupancy rates are observed in hospitals in the south of the country. The will to make health care services accessible to the majority of the population has paradoxically led to a squandering of resources. The proliferation of hospitals does not necessarily imply an efficient health care system. The occupancy rates in some of the hospitals, built as a result of the policy of regional equilibrium, are largely below the national average (Ghardaia 12 percent, Illizi 5 percent, Ain Sefra 26 percent, Djanet 20 percent, Hassi Messaoud 24.5 percent, Sfisef 15.3 percent, Telagh 21.8 percent...).

1.3.2 Human Resources

Investment in infrastructure was accompanied by important efforts in the training of medical personnel. From 1982 to 1992, the number of doctors increased almost threefold.

EXHIBIT 1-6
EVOLUTION OF THE MEDICAL MANPOWER BETWEEN 1962 AND 1992

	1962	1982	1991	1992
Doctors	600	9,056	24,369	25,304
Dental Surgeons	135	2,313	7,563	7,833
Pharmacists	266	1,137	2,575	2,984

The size of the medical labor force is a major piece of information in forming a pharmaceutical policy. The distribution of this manpower and the practicing specialties of the profession are parameters that directly affect the feasibility of reforms. Regional discrepancies in medical manpower distribution have made the policy of infrastructure expansion incomprehensible to health professionals.

From an average of 1,068 inhabitants per doctor, the ratio fell in 1992 to less than 800 in some of the major cities (Blida 734, **Algiers 325**, Annaba 590, Constantine 600, Oran 515...). Those discrepancies are of major significance in the case of specialists. Whereas the ratio of the number of general practitioners between wilayas can vary from one to four, the ratio varies from 1 to 36 in the case of specialists. Some statistics from the Ministry of Health for the year 1991 are good indicators of the levels of disparity: 45 percent of specialists from the public sector and 34 percent from the private sector practice in the departments of Algiers and Oran, whereas 22 hospitals in some central areas of the country operate without any specialist.

It is also worth mentioning that a higher number of professionals tends to practice in the private sector. This tendency toward privatization is not recent. It nevertheless accelerated with the worsening of working conditions in the public sector and especially with the existence of sharp income disparities between public and private sectors. At the end of 1991, the number of private practitioners was 10,386, including 1,744 specialists, 4,332 generalists, 2,391 pharmacists and 1,919 dental surgeons (Ministry of Health, 1992). Between the end of 1991 and the end of 1992, the proportion of private practitioners went up from 26 to 32.2 percent. This tendency is particularly pronounced in the case of specialists. From 1,005 in 1989, their number went up to 1,744 in 1992.

The 80s decade and the beginning of the 90s are characterized by contradictory trends: on the one hand, there is an important expansion of infrastructure that failed to take account of future operating expenses. The low utilization rates observed are in contrast with increased expenses. On the other hand, there is a trend toward privatization in the medical profession. The financial difficulties of public hospitals increase while the practice of medicine becomes less a public service and more a commercial activity like any other. Since the early 90s, the Algerian health system has been endowed with significant infrastructure and considerable human resources. Those elements can constitute major assets. However, they can also be a powerful brake in the face of poorly designed plans of action that do not take into account other realities.

1.3.3 Financing Problems

The background information above leads directly to the central problem of the financing of health costs. The endurance of the system described above depends finally on the mobilization of the resources necessary for its functioning and growth. Most recent data show that problems will arise that will be more and more difficult to ignore: how can the stock in place be made profitable? how to ensure its financing? what are the means and solutions?

EXHIBIT 1-7
NATIONAL HEALTH EXPENDITURE RELATIVE TO GDP

	1988	1990	1991	1992	1993*
National Health Expenditure in billions of dinars	16.007	22.842	32.314	46.006	52.830
GDP in billions of dinars	350.100	536.300	793.300	987.000	1,149.0
NHE/GDP in %	4.570	4.260	4.070	4.660	4.600

* Estimates
Source: Ministry of Health

The data above may lead us to believe that health expenditures are relatively under control with respect to GDP. In fact, the very high increase in expenditures in absolute terms can be attributed to the increase in expenditures on personnel and drugs. Between 1988 and 1992, personnel expenses increased by 120 percent, from 5.9 billion dinars to 19.2 billion dinars. Hence, 75 percent of operating expenses are assigned to the salaries of hospital personnel. This steeply rising tendency is in marked contrast with a trend toward unfavorable operating conditions of hospitals. There is no doubt that the budget reforms will face very strong opposition from health professionals.

EXHIBIT 1-8
SOURCES OF FINANCING (in %)

	1988	1990	1991	1992
State	0.4	22.842	32.314	46.006
Social Security	73.3	50.100	42.400	37.500
Households	25.7	29.000	25.600	27.400
Others	0.6	0.700	0.600	0.700

Reforms are nonetheless necessary and inevitable. This is because of the inability to sustain such a high rate of growth in expenditures, and also because of the very low productivity of these expenditures. Some comparisons with neighboring countries (Morocco and Tunisia) show that the level and the rate of growth of expenditures do not necessarily translate into corresponding improvements in the main health indicators.

EXHIBIT 1-9
HEALTH EXPENDITURES IN THE THREE MAGHREB COUNTRIES
(in millions of US$)

	Algeria	Morocco	Tunisia
Total health expenditures	4,159	666	614
Per capita expenditure in US$	166	26	76

Source: World Bank, 1993

EXHIBIT 1-1C
SOME SOCIO-ECONOMIC INDICATORS ON THE MAGHREB COUNTRIES

	Algeria	Morocco	Tunisia
GDP per capita in $US	2,230	880	1,260
% of population with access to clean water (1988-1990)	71	61	68
% of population with access to health services	88	70	90
(1985-1990)	96	112	62
Mortality rate in % for the less than five years (1990)	68	75	48
Infant mortality rate (1990) (in %)	65	62	67
Life expectancy in years (1990)	8	9	7
Gross mortality rate (in %) (1990)			

Source: UNICEF. "Children's condition in the world." New York, 1992

These indicators give an idea of the socioeconomic and health conditions in the three countries. Although they are only indicators, they lead us to question the efficacy of human, material, and financial means deployed in Algeria. They also lead us to one of the main questions in this study: can the drug problem be reduced to a question of level of funds that need to be raised? Are the problems that are lived daily by the users of the health system related to the organization and evolution of the sector?

2.0 OBJECTIVES AND METHODOLOGY OF THE STUDY

2.1 THE OBJECTIVES OF THE STUDY

The objectives can be classified in two categories:

The first consists in presenting the characteristics of the pharmaceutical market in Algeria in the early 90s.

Prices accelerate and shortages of some products become structural. Reports of these problems abound, as well as propositions for solutions. The media echo the concerns of both businesses and citizens. However, there are insufficient references to concrete facts. Propositions are most of the time of a normative type (it should be that..) rather than a positive one (what is). The issue of "how to" is often avoided. Insufficient references to concrete facts are not always due to the lack of information. The problem is that when the information exists, it is very often scattered. Organizational problems, more specifically the non-existence of a Pharmacy Directorate as an indispensable structure for centralization and analysis of data, aggravates the problem.

Given this state of affairs, it was essential to set the production of some necessary data, based on a field survey, as one of the primary objectives of this study. Given the limitations in terms of means and deadlines, it was necessary to limit this research to two central issues: ***the prices and availability of drugs.*** The objective in fact is to provide the data necessary for an urgent consideration of present conditions in the pharmaceutical field and how to reconcile economic efficiency and public health requirements.

The second objective of the study is to provide some elements of answers to the issues raised by shortages and the increase in drug prices.

Three central hypotheses are at the basis of this research:

- One is that drug availability is not fully determined by the amount allocated to imports in the foreign currency budget. In other words, drug shortages are not inevitable. It is possible to reduce shortages by acting on the organization of the sector. The infusion of additional financial resources is not sufficient.

- The other is that the issue of drug prices is currently considered from the wrong perspective. In fact, the increase in prices is imputed to the devaluation of the currency and the intervention of the private sector in drug imports and in their wholesale distribution. The issue of drug accessibility to consumers is uniformly considered without any distinction between income levels and drug types. Actions on prices can occur at different levels which are not mutually exclusive. These actions inevitably affect conflicting interests (importers, wholesale and retail distributors, consumers, social security...). The hypothesis that is proposed here is that price control is not sufficient to regulate drug expenditures. Other measures that are equally important may contribute to not only solving the issue of drug availability to consumers but also to better managing the constraint of foreign means of payment. For a country like Algeria, which imports 85 to 90 percent of its drugs, it is necessary to distinguish solutions for short-term problems from long-term solutions (for instance, the development of a domestic production) which affect the structure and the organization of the pharmaceutical market. In a period of rapid transition, and in the context of fragile institutions and frequent changes in the centers of decisions, the day to day management very often overrides the ability to have a pragmatic vision as well as a forward looking way to deal with problems.
- The third hypothesis concerns the roles of both public and private sectors in the pharmaceutical field. Because of the inability to understand, and hence to control, the situation, the temptation is becoming more and more pressing for a return of public monopoly in the pharmaceutical sector. The extent of price and availability problems are such that they are readily blamed on the liberalization of the sector. Such a position omits at least two elements: on the one hand, the effect of the new exchange rate policy on the level of domestic prices; on the other hand, the results of a retrospective analysis of the management of the sector by public monopolies. Neither shortage nor squandering problems are recent. Despite the monopoly held by public enterprises in the import, wholesale distribution and production of drugs, fundamental problems remain: the country's real needs are poorly known, and national production satisfies less than 20 percent of demand. The issue of complementarity between public and private sectors is currently the object of major controversies.

Some believe that the public sector is the only guarantor of public interests. Bringing monopoly back would then be the only solution to the drug market crisis.

Others stress the inability of public enterprises to manage invested resources. These positions are, of course, extreme and have been simplified here. They reveal, however, that the debate concerning this issue has not progressed much since the introduction of economic reforms in 1988.

The hypothesis in this study is that it is possible to ensure an efficient complementarity between both sectors, where performance should be judged at both the levels of economic efficiency and public health needs. To be able to identify some of the levels of complementarity and the regulatory actions that should be envisaged, it is necessary to overcome the moralist approach which consists in seeing in the private sector an agent interested in profits only. To recognize that it is profit per se that makes the private sector an efficient economic agent shifts the debate toward profitability considerations only. The difficulty in the case of drugs stems from the fact that they are special commodities that do not follow the rules of supply and demand only.

The intervention of several economic agents whose operating modes and interests may be conflicting (health authorities, prescribers, producers and drug sellers, social security, consumers...) makes it necessary to go beyond the limits of conventional economic analysis. One of the ambitions of this research is precisely to identify certain solutions toward a complementarity between the roles of the private and public sectors. We thus see that regulatory means relate to several domains: information and training, regulation and control, and policies on competition.

2.2 METHODOLOGY

The methodology of the study has been determined on the basis of two elements:

- The first relates to context. Since this is a period of transition, the changes in the operation of the economy are rapid and several. The inadequacy of the information system is, however, compounded by the speed of these changes. But if it is essential to take into account past changes, then little can be said about the process of transition. The various disorders and the levels of their manifestations require an empirical approach. Global and aggregate data do not provide the elements that are necessary for the understanding of current trends.
- The second is the lack of openness that characterizes the domain of drugs. Since we are dealing with many sectors, it is difficult to work on disparate elements of information, often emanating from divergent and contradictory sources. The particular context of transition and the paucity of available and accessible information have therefore dictated the choice of a ***field survey***.

2.3 SURVEY DESIGN

The survey has been designed on the basis of the organization *of the pharmaceutical market* and the *channels of access to drugs*.

The access to drugs takes place either through public hospitals or through pharmacies:

- In the hospital sector, drugs are distributed freely to hospitalized patients.
- At the pharmacy level, drugs are sold and their prices determined according to a system of profit margins based on import prices, or production prices if the drug is locally produced.
- The importance of hospital infrastructure, their mode of supply management, and finally their importance in the total consumption of drugs (between 25 and 30 percent) forces us to take them into account in this analysis.

The existence of three big public enterprises with regional operations in both wholesale and retail distribution and the differences in geographic intervention of the private sector were elements that had to be taken into account in the determination of the sample of both pharmacies and hospitals.

Public pharmacies have been under-represented on purpose. Besides their number, the important element to be taken into account is that they are supplied by their mother enterprise. Needless to say, there are few differences in terms of prices and availability of drugs between agencies belonging to the same public enterprise. They have, nevertheless, been represented in the three chosen geographic zones.

Private pharmacies, however, have been noticeably represented. The rapid development of the private pharmaceutical sector deserved special attention. The other interesting element is that private pharmacies stock up from all suppliers without distinction of their legal status. Owned by pharmacists (public ones are managed by employees, very often non-pharmacists) and endowed with a great flexibility in management, they adapt faster to changes in terms of both shortages and prices.

As to regional representativeness of the survey, a few limitations are worth mentioning:

- The south of the country has not been covered. Survey difficulties on the field did not allow for travel over long distances. These limitations are mitigated, however, by the fact that 95 percent of the population is concentrated in the north of the country. Also, given that the object of the study is the analysis of the changes that occurred in both prices and availability of drugs, it may be assumed that the surveyed units provide sufficient information for that purpose.
- The same considerations have dictated the elimination of the eastern region. In this case, however, four private pharmacies have been surveyed in the town of Stetif, located at 300 km from Algiers and at 100 km from Constantine, headquarters of the public enterprise ENCOPHARM, one of the most important in the import and distribution of drugs.

Finally, the survey has covered:

- **The wilaya (department) of Tizi-Ouzou:** Semi-urban and with a very high population density, this wilaya experiences a strong development in the private pharmaceutical sector. One teaching hospital, three hospitals (of which two are district hospitals), and ten pharmacies have been surveyed. The public enterprise which operates in this geographical area is the ENAPHARM.
- **Algiers:** national metropolis and capital of the country, the city of Algiers has the highest concentration of pharmacies, health infrastructure, and prescribers. One teaching hospital, one hospital specialized in infectious diseases, and twelve pharmacies were surveyed.
- **The area of Oran (west of the country):** this region was exclusively supplied by the ENOPHARM. Since the liberalization of the pharmaceutical sector, a distribution network has developed there too. Seven pharmacies, one teaching hospital, and one district hospital were surveyed.
- **The Eastern region:** four private pharmacies were surveyed in the town of Stetif.

Two questionnaires were used for data collection:

- A pharmacy questionnaire for the retail distribution network. This questionnaire carries a list of drugs for which data on prices and availability are requested. This list, devised with the help of pharmacists, covers the majority of essential drugs and drugs with high turnover.

- A hospital questionnaire. Same data on drug prices and availability are requested. However, it does not include a list of drugs. Hospital size and other important differences hindered the establishment of a unique list. Persons responsible for hospital pharmacies were asked to list the products that they considered strategic for the operation of their services.

2.4 ENCOUNTERED DIFFICULTIES

Survey difficulties were of two types:

- First, the cooperation of respondents. Some pharmacists showed reluctance in providing data. This required several trips as well as a sustained effort of sensitization. This difficulty was compounded by the frequent absence of owners of private pharmacies. This required some changes in the basic sample without, however, affecting its representativeness. These difficulties, on the other hand, have delayed the completion of the survey and reduced the time available for processing and analysis.
- Second, the difficulties inherent in the very nature of the required information. The number of drugs and the different forms and dosages under which they are marketed are elements that increase the difficulty of collecting and processing data. Some elements of the analysis, dealing with very subtle questions, have been addressed using questionnaires selected on the basis of their quality of information and comprehensiveness.

In general, it may be assumed that the data gathered are largely adequate for the main questions of this study.

Note that several follow-up interviews have been conducted with the various parties concerned. These interviews shed additional light on the data collected through questionnaires.

3.0 EVOLUTION OF DRUG AVAILABILITY: PROBLEMS AND SOLUTIONS

Drug availability problems are not recent. Even during the years of financial ease, drugs were disappearing from the market without a fall in aggregate supply. These problems, common in almost all planned economies, are fundamentally related to the operation of the markets for goods and services. *The negation of regulatory market mechanisms,* in the framework of economic voluntarism, is at the source of the structural dysfunctionings that characterize countries with planned economies. Supply management and changes in demand take place independently of current economic parameters. In particular, changes in demand are not correlated with changes in productivity. An artificial expansion of the domestic market results. This expansion is linked, in the case of Algeria as in the case of other raw material export countries, to management of foreign trade.

The drug sector must be examined in the context of this general framework. The next four sections of this report examine drug availability: demand, supply, distribution, the nature of shortages, and their control.

- ***This section 3.0*** deals with the evolution of aggregate supply. If value data are available, volume data are more of a problem, due to the rapid change in exchange rates between 1989 and 1993. Estimates of supply in terms of sales units are proposed. This first stage also allows a better assessment of the data that were directly collected by the field survey.
- ***Section 4.0*** describes the organization of supply and distribution operations at the wholesale and retail levels. A brief chronological account is given through an analysis of recent developments. The modalities of the intervention of the private sector are the object of a special focus because of its rapid expansion. Issues relative to supply modalities of hospitals and to current problems of organization are addressed.
- ***Section 5.0*** focuses on the analysis of availability issues based on data collected through the field survey. How do shortage problems arise? Are these similar problems independently of regions, sectors, and access modes to drugs (pharmacies or hospitals)?
- ***Section 6.0*** reviews the prospects of supply control. Interviews with the various agents in the sector permit an assessment of the difficulties of design and implementation of a pharmaceutical policy based on public health objectives and cost considerations.
- ***Sections 7.0 through 10.0*** analyze drug prices. Finally, section 11.0 presents conclusions.

3.1 DRUG CONSUMPTION

Since the early 70s, the drug market has experienced accelerated patterns of growth. At current prices, it has increased fourfold during the 80s.

EXHIBIT 3-1
EVOLUTION OF AGGREGATE CONSUMPTION BETWEEN 1969 AND 1992
(in millions of current Dinars)

1969	1974	1982	1988	1990	1992
145	607	1,230	3,175	5,223	10,327

Source: Derived from statistics from the Ministry of Health.

At current prices, the volume of consumption increased exponentially over a period of two decades. This sharp evolution is the result of the dynamics of the health care system, the expansion of the retail distribution network, and the changes in prices and exchange rates.

The expansion in health infrastructure and a growing population of medical professionals are certainly the factors that have mostly contributed to this growth. Other influential factors are the development of social security coverage, the expansion of wage employment, and the low prices of drugs. According to the statistics of the "ONS" (National Office of Statistics), drug prices have experienced an average annual rate of growth of the order of 1.5 percent between 1969 and 1986.

In the second part of this study, these aspects will be the object of a detailed analysis.

This strong market growth is not due to demographic growth alone. It also represents a real growth at high rates of consumption per capita.

EXHIBIT 3-2
EVOLUTION OF CONSUMPTION PER CAPITA
(in millions of current Dinars)

1970	1974	1980	1990	1992
20	47	84	160	280

Data relative to unit sales largely support this assessment.

EXHIBIT 3-3
EVOLUTION OF CONSUMPTION IN UNIT SALES
(in millions)

1974	1978	1982	1990	1992
88	158	273	440	450

Data relative to the year 1992 are a rough approximation of unit sales based on 1990 data. The value of imports and its equivalent in unit sales are known for 1990. Their ratio was used for 1992. Assuming that import prices have little changed and that the devaluation was of 200 percent between 1990 and 1992, one can assume that marketed quantities have stagnated or slightly decreased. This very important hypothesis will condition the validity of some of the results of the analysis on the causes of shortages. Note that some large quantities of drugs that were bought in 1991 have not been marketed until 1992.

3.2 THE STRUCTURE OF PHARMACEUTICAL CONSUMPTION

To complement these aggregate data, it is useful to provide some indicators of the structure of consumption by therapeutic classes. Such indicators show that important anomalies exist in the conditions of supply management.

Available aggregate data are relatively old. They date back to 1981 and do not necessarily represent current conditions. Information gathered in hospital circles and interviews with pharmacy managers support, however, the hypothesis that the structure observed in 1981 remains relatively unchanged.

EXHIBIT 3-4
SHARE OF SALES BY THERAPEUTIC CLASS IN 1981

Therapeutic classes	Hospitals	Aggregate level
Anti-infectious	35.5	27.4
Various (placebos)	4.5	13.2
Nervous system	12.2	12.0
Gastrointestinal	6.6	10.5
Respiratory tract	2.8	5.9
Vitamins	3.6	4.7
Hormones and substitutes	4.4	4.7
Dermatological and mucus	4.8	4.5
Spasmolytics	6.2	4.0
ENT, Ophthalmology	3.5	3.7
Metabolisms, diuretics	1.8	2.5
Electrolytes	6.5	1.9
Cardiology, pneumology	1.8	1.9
Anti-histaminics	0.9	0.9
Hematology	0.9	0.7
Others	4.0	1.5

Source: K.Besseghir and S. Haffaressas: the consumption of drugs in Algeria; a first approach. Algiers, 1982.

The above study is based on:

- Inventory changes in all health districts in the country.
- Pharmacy sales in the regions of Algiers, Oran, and Constantine.

The authors of the study make two important observations:

- The first one is related to the weight of the share of anti-infectious drugs (27.4 percent). The importance of this therapeutic class in aggregate consumption underlines the prevalence and persistence of transmitted diseases.
- The second one concerns the share of placebo consumption, i.e. of products with no therapeutic effect, at the pharmacy level. This very important weight is due to the inadequacies in the training of prescribers and in information available to them. An abnormally high consumption of placebos at the pharmacy level shows that prescription profiles can be clearly categorized according to the practice status within the medical profession. This phenomenon, which will be dealt with in more detail later in the study, is often mentioned throughout the interviews with pharmacists and doctors.

Accounting for this reality is necessary in order to control supplies, especially in a country like Algeria which imports a very large share of its drugs.

3.3 DRUG SUPPLY

The issue of supply and its origin is of crucial importance in defining short and medium term means of regulation. All data show that availability of drugs in the medium term depends on the organizational conditions of foreign supplies. This issue is even more complex given that Algeria is experiencing serious imbalances in its balance of payments. A non-convertible currency and significant current demand are two problems that health authorities are unable to circumvent.

3.3.1 Imports

EXHIBIT 3-5
SHARE OF IMPORTS AND NATIONAL PRODUCTION IN SUPPLY
(in millions of Algerian Dinars (AD) and in %)

	1974	1980	1990
1. Imports	278.0	1,100.0	2,892.0*
2. Local production	46.0	129.0	417.0
3. Total	324.0	1,229.0	3,309.0
1/3 (in %)	85.8	89.5	87.3

* The amount in AD for 1990 was estimated based on an exchange rate of 1FF = 2.50 AD

The supply of the Algerian pharmaceutical market thus strongly depends on the volume of foreign currencies that the government allocates to the import of these products. Another characteristic of this market is that it is dominated by large French drug companies.

EXHIBIT 3-6
DISTRIBUTION OF COUNTRIES SUPPLYING CLASS A PRODUCTS
(these products represent 80% of total sales) in 1982

Country	Market share in %
Algeria	8.040
France	66.520
Spain	1.620
Hungary	1.408
Italy	1.128
Austria	0.562
Poland	0.196
Great Britain	0.167
Tunisia	0.339

Source: Ministry of Energy and Chemical and Petrochemical Industries (MECPI): Elements of an industrial policy for drugs. Algiers, 1986.

EXHIBIT 3-7
MAIN SUPPLIERS IN 1989
(in millions of AD)

SANOFI (France)	189.5
LEK (Yugoslavia)	189.0
UPSA (France)	187.0
Rhone Poulenc (France)	137.0
BIOCHEMIE (Austria)	112.0
BRISTOL (Italy/France/USA)	84.0
INTAR (Belgium)	78.0
SANDOZ (Switzerland)	77.0
PFIZER (USA)	71.0
MEDIMPEX (Hungary)	61.0

Source: Ministry of Health

EXHIBIT 3-8
MAIN BUYERS OF FRENCH DRUGS
(in millions of francs)

1970		1980		1990	
Algeria	176	Algeria	904	FRG	1,826
EUBL	64	FRG	557	Netherlands	1,168
Switzerland	51	EUBL	356	Algeria	1,157

Source: "SNIP," Paris, 1991. [National Society of Pharmaceutical Industries]

The early 90s were marked by an increase in this concentration. Credit lines granted to Algeria by France and Italy have imposed the choice of potential suppliers on importing enterprises. The diversification of the sources of supply has always constituted one of the major axes of the import policy. As it can be easily noted, this objective has never been achieved. According to the Ministry of Economy, French suppliers provided 80 percent of supplies in 1991.

3.3.2 Domestic Production

Basic Strategy

The market share of domestic production has never exceeded 20 percent. This is all the more paradoxical since the Algerian drug market is one of the most important in the African continent, and has been characterized by very high rates of growth. Countries with much fewer resources, and with a smaller market size, are able to meet around 80 percent of their needs. Morocco, a neighboring country of Algeria, is a striking example in this respect. Of course, the per capita consumption level in that country is far below that of Algeria, and the dependence of Morocco in terms of technologies and active ingredients is almost total.

The present situation of the Algerian pharmaceutical industry may be described in terms of at least three aspects:

- *Algeria is a country of buyers.* Algeria's comfortable financial situation and especially its ease of access to foreign credits have strongly encouraged importation in order to cover the deficiencies in domestic production. The resort to imports has become systematic and without consideration for real costs. This general laxity is even more evident in the social domains such as education and health.
- *Health is priceless.* This old saying, which is still alive, has played a large role in the evolution of the Algerian health system. The education and health sectors have benefited from important investments since the late 60s. In the health field, the expansion of infrastructure prevailed over a policy more geared toward prevention. This investment policy ignores recurrent costs. The establishment of free medical care in the early 70s reflected well the objective of income redistribution and that of the authorities' desire to seek legitimacy.
- *The objective of national economic independence dictates investment choices.*

The development strategy for a national pharmaceutical industry was determined by a general framework, which consisted in setting up industries in the public sector. Despite the existence of an embryonic pharmaceutical industry, choices favored heavy investments, to the detriment of testing and development units, which are widely accessible to a country such as Algeria. Ignoring the specificities of the international pharmaceutical industry, which is organized and controlled by a small number of companies, the authorities opted then for a vertical integration scheme of industrialization.

This choice, made independently of any partnership with the holders of technology, was a wager on the success of a national pharmaceutical industry.

The results: a little developed or integrated pharmaceutical industry

With a production covering almost all therapeutic classes, the Algerian pharmaceutical industry presents a remarkable dichotomy.

On the one hand, there are three small polyvalent units situated in the neighborhood of Algiers.

- The BIOTIC plant, which manufactures mostly "massive soluble substances?" [solutes massifs]. Of old design (prior to independence), it was bought back in 1976 by the Central Algerian Pharmacy (CAP).
- The PHARMAL plant. Like the first one, it was already in place before 1962. Geared toward the manufacture of relatively expensive pharmaceutical products, it was bought back at 100 percent by the CAP in 1976.
- The El Harrach plant. Completed in 1971, this unit benefited from an expansion of its production capacity in the early 80s. It is in the same line of production as the first two nationalized units.

On the other hand, there is an integrated complex for the manufacturing of antibiotics.

Initiated in 1967 and operational since 1987, this industrial complex illustrates the choice to move toward technologically leading industries.

The objective of this complex was not only to meet the country' s needs in terms of a large range of antibiotics but also to generate, in the long run, excess production for exports. This antibiotic complex follows a model of vertical integration. All stages of drug production are planned: from the manufacturing of active ingredients to testing and packaging. WHO studies of 104 developing countries show that less than ten countries have reached a comparable stage of technical development.

The SAIDAL enterprise, which manages all these plants, is currently facing serious difficulties. Finances and problems of stocking of raw materials are only some of the difficulties.

EXHIBIT 3-9
RATES OF UTILIZATION OF PRODUCTIVE CAPACITIES OF THE SIDAL ENTERPRISE IN 1990

Range	Capacities in unit sales	Rate of utilization in %
Tablets	19,900,000	66.7
Capsules	16,100,000	30.0
Ointments	27,000,000	43.7
Syrups	20,500,000	59.4
Suppositories	5,200,000	72.0
Solutions	1,600,000	115.2
Suspensions	4,000,000	42.3
Powders	3,000,000	6.3
Oral supplies	2,200,000	80.4
Intervenes fluids	3,000,000	63.4
Injectables	50,000,000	26.2
Total	152,500,000	43.3

The average utilization rate of productive capacities of the enterprise is 43.3 percent. The antibiotics complex, which represents the core of the infrastructure of the enterprise, operated, in 1990, at less than 30 percent of capacity.

In the final analysis, the Algerian pharmaceutical industry is in a paradoxical situation:

- At the level of production, its share of the total consumption in the country is low. This reality contrasts with the size of the market. Opportunities for the development of formulation units are in fact important.
- At the technological level, segments of production accessible to developing countries (testing, formulation) have been neglected in favor of heavy investments in a complex of integrated production.

This situation is the result of a voluntarist policy which refuses to acknowledge the constraints of the pharmaceutical industry. Paradoxically, Algeria is one of the few countries that engaged in an integrated development in this type of industry. It is at the same time one of the rare countries that experiences such a strong dependence on imports. The issue of the ways and means for development of a domestic drug industry is still outstanding. Attitudes in this respect are numerous and often divergent. Some recommend the reestablishment of the state monopoly in this sector. Others bet on the intervention of private capital, mainly foreign, for a real development of the sector. The stakes and controversies are very important in this respect. It will be later seen that a clarification of the rules of the game is a precondition in order to avoid raising a false debate.

From all that preceded, one central fact must be retained: in this period of rapid transition toward a market economy, the means of regulation are to be found in the organization of the import and the wholesale distribution functions.

4.0 THE SUPPLY AND DISTRIBUTION FUNCTIONS

An important debate has been taking place for quite some time on the best means to ensure, in developing countries, the functions of importation and wholesale distribution of drugs. Securing a regular supply of basic drugs, at the least possible cost, is the objective. **The central unit for purchases** is often represented as the most efficient instrument in this context.

The lack of sufficient comparative studies makes it currently difficult to evaluate any particular form of organization. The following statement is limited to a description of the modes of organization of importation and wholesale distribution functions in Algeria. The issues that are raised are in direct relation with the core issues of this study, namely prices and availability of drugs.

The issue of drug availability cannot be merely reduced to the shortage phenomenon. Algeria consumes a much larger number of drugs than Morocco and, nevertheless, some Algerians go there to buy some of the needed drugs. This is at least what happens in the areas bordering Morocco. The fundamental problem seems to be in the management of the supply of drugs and especially in the factors that are at the source of demand.

This chapter provides some data that shed light on the results of the field survey concerning the issues of availability of drugs. We will see that the problems of shortages, as experienced by consumers, or as presented by the media, are not properly raised. Because supplies are too dependent on the amount of resources that the government extends to the drug sector, supply problems are, in fact, the result of the absence of a pharmaceutical policy.

4.1 BRIEF HISTORICAL BACKGROUND ON THE ORGANIZATION OF THE PHARMACEUTICAL MARKET

Until the early 1990s, the drug sector had been managed as a public monopoly.

The **Algerian Central Pharmacy** (ACP) was created in 1963. It was progressively assigned all responsibilities concerning the development strategy of the pharmaceutical sector and took over the work of wholesale distribution enterprises. Since 1969, it has held a monopoly on the import of pharmaceutical products and medical material.

Throughout the 1970s, ACP developed its stocking infrastructure and its wholesale and retail distribution network. During that same period, it bought back the two drug production plants then in place (PHARMAL and BIOTIC). It also initiated a large project for the development of national pharmaceutical production. The complex for the manufacturing of antibiotics in Medea was thus conceived in the context of a big state enterprise assuming all functions: the import, wholesale distribution, and production of pharmaceutical products, all are under the ACP's monopoly.

In the late 1970s, a big debate was engaged on the performance of public enterprises. This debate remained, however, confined to the narrow limits of organizational problems. The operating conditions of the economy were not yet questioned. The management of external equilibria (debt) and monetary policy were disregarded. The deficiencies of public enterprises were considered from only the organizational point of view. It is also important to note that one of the core problems, **the selection of managerial staff**, was completely disregarded.

The restructuring of enterprises, as a solution to productivity problems, was reduced to a simple scheme which consisted in grouping enterprises according to two principal criteria: the separation of marketing and production functions and the simplification of their missions.

As a result of these reforms, the ACP was divided into five enterprises:

- The **ENAPHARM** (based in Algiers) was assigned the supplying of all hospitals in the country. It also ensured the supplying of the entire pharmacy sector (public and private) in the Central area of the country.
- The **ENOPHARM** (based in Oran) was assigned the task of supplying public and private pharmacies in the Western region.
- The **ENCOPHARM** (based in Constantine) was assigned the same objective as the ENOPHARM for the Eastern region of the country.

These three enterprises share, as regional wholesale distributors, the monopoly of drug imports. All three of them are entitled to sign importation contracts with foreign partners.

In addition to these enterprises, which specialize in drug marketing, two other enterprises have emerged from the restructuring of the ACP:

- **SAIDAL:** it is constituted by all existing production units. It is also assigned the task of developing the Algerian pharmaceutical industry.
- **ENEMEDI:** it has the monopoly of the import and distribution of medical and surgical material.

With the restructuring of the ACP in five enterprises, **an end was put to the state monopoly and to the existence of a central unit for drug purchases.**

The law relating to the autonomy of public enterprises was applied to this sector. Deficiencies in the management of supply and demand became more and more pronounced. The dispersion of skilled people and the freedom given to agents in the field of foreign trade have undermined the major advantage that Algeria had, namely its buying power.

The restructuring seems to have compounded the problems of the management of drug supply. No assessment and no detailed study have been conducted on these issues. Though it is difficult to assess the impact of restructuring on the management methods of import and wholesale distribution functions, some indicators convey the idea that previous difficulties have worsened. The public monopoly in the pharmaceutical sector has not been an efficient means of regulation of drug supply. Will the liberalization of the sector improve the situation?

4.2 THE FUNCTIONS OF IMPORTATION, WHOLESALE AND RETAIL DISTRIBUTION: THE SITUATION IN 1993

Knowledge of the organization of the functions of importation and wholesale and retail distribution is a prerequisite to the analysis of the dysfunctionings of the pharmaceutical market. Although the public monopoly was not equipped to handle the situation, the opening of the sector has also led to serious problems.

The particular context of a transitional period is certainly a major reason for the increase in shortages. This, however, does not justify the fact that the problems specific to the pharmaceutical industry were not addressed. Liberalization brought contradictions that need to be eliminated. The evidence on the operation of supply and distribution networks highlights a major issue: the availability of drugs is not only related to the amount of foreign currency budget that the government allocates to the sector. Availability is also conditioned by a new dynamic which puts drug supply and demand under the rules of the market economy. To be able to assess the degree of difficulty of the situation, the analysis will focus on the functions that determine availability of pharmaceutical products.

4.2.1 The Importation Function

With the law on money and credit, which was passed in early 1990, state monopoly of foreign trade was ended. As a result, all "PHARMS" created by the ACP lost exclusive rights for drug imports.

The **Council of Money and Credit**, to whom all applications for wholesale dealership are submitted, was placed under the authority of the governor of the Bank of Algeria.

The law on money and credit requires that all agents that wish to enter the import and wholesale distribution business invest in production activities. However, it is not clear how this process is supposed to take place. It is useful to mention that the first private agent who has been approved as a dealer is a pharmaceutical enterprise.

Public enterprises thus find themselves caught in an ambiguous status. Faced with their obligations to be economic agents, and hence to abide by market rules, they also have to simultaneously fulfill their public service mission. On the one hand, banks, which are the paying agents of import operations, rely on the solvency criterion alone. On the other hand. the PHARMS are affected by the freezing of prices. Devaluations have no immediate impact on domestic prices. This contradiction leads to significant losses in foreign currency by public enterprises.

EXHIBIT 4-1
CURRENCY EXCHANGE LOSSES BY THE PHARMS BETWEEN 1989 AND 1991
(in millions of AD)

	1989	1990	1991
ENAPHARM	20	394	1,440
ENOPHARM	41	103	815
ENCOPHARM	70	103	380

The financial difficulties that public enterprises faced prevented them from satisfying the solvency criterion that banks meticulously applied.

The first private enterprise in the drug field, the APL (Algerian Pharmaceutical Laboratory), was in a very favorable competitive position. It is registered in Algeria and represents the interests of very large French drug companies who are shareholders in it.

Other private dealers were subsequently approved to the APL (IMA, DISTRIMED, COPHARM.-..). Precise and up-to-date data on the situation are not accessible. The important indicator though is that the APL covers almost 90 percent of imports by the private sector.

EXHIBIT 4-2
DRUG IMPORTS ACCORDING TO THE LEGAL STATUS OF THE IMPORTER
(in 1991 and 1992, in millions of AD)

	1991		1992	
	millions of AD	%	millions of AD	%
ENAPHARM	1,449	28.9	2,252	24.2
ENOPHARM	1,128	22.5	1,566	16.8
ENCOPHARM	1,943	38.7	3,487	37.5
APL	500	9.9	2,000	21.5
TOTAL	5,020	100.0	9,305	100.0

Source: Ministry of Health

The only private importer mentioned in the statistics of the Ministry of Health is the APL. Data concerning this enterprise are estimates only.

More detailed information, from banking sources and the Ministry of Economy, indicate that the APL is in fact the only private agent who significantly intervenes in the market. In 1992, its share of total drug imports was 21.5 percent whereas the aggregate share of all other private enterprises (DISTRIMED, COPHARM, IMA) is of the order of 2.09 percent only.

The mode of access to foreign currencies is determined by a regulation issued by the Bank of Algeria in May of 1992. This regulation ensures the uniformity of the procedures of access to all agents, regardless of whether they are public or private.

The only requirement is for agents to find external sources of financing or to accept existing lines of credit.

This procedure was reassessed by an instruction issued by the Prime Minister in August 1992 (instruction no. 625 dated 08/10/1992 relative to foreign trade and its financing).

An **"ad hoc inter ministerial committee to follow-up on foreign trade operations"** is established. Without going into much details on the functions of this committee, it is relevant to note that:

- All import operations exceeding US$100,000 are examined by the ad hoc committee.
- A list of products which are given priority access to foreign currencies is established. Pharmaceutical products are included in this list.
- The ad hoc committee has full discretion in establishing priorities among all the import operations that are submitted for its consideration.

Concretely, the operations of this committee constitute a reassessment of the procedures previously established by the Bank of Algeria. The freedom of access to foreign trade is in fact limited and is bound by conditions fixed by the administration. The criticisms that were addressed against this committee by all enterprises, particularly private ones, related essentially to:

- The discrimination between private and public enterprises concerning access to foreign currencies.
- The slowness in the decision-making process which considerably delayed import operations.
- The lack of openness in the criteria used for assessing import requests.

In fact, it was the process of transition toward a market economy that was being reconsidered. Although public monopoly of foreign trade was not officially reestablished, the operating conditions on the ground pointed to a return to the procedures of a planned economy. The government which took office in August 1993 seems to be willing to rescind those restrictions.

4.2.2 The Wholesale Distribution Function

Held until 1990 by public enterprises only, the wholesale distribution function has since opened to the private sector. The "executive decree no. 92-285 of July 6, 1992 relative to the authorization of exploitation of an establishment of production and/or distribution of pharmaceutical products" organizes this function.

Delivered by the Wali (the prefect of the department), the authorization is granted according to several criteria:

- The existence of an infrastructure and the material means compatible with the activity,
- The management of the establishment by qualified staff. The technical management of the establishment should be undertaken by an accredited pharmacist having all the necessary qualifications for the management of pharmaceutical products.

By the end of January 1993, 139 private wholesalers could be counted excluding the three PHARMS which are wholesalers as well.

EXHIBIT 4-3
DISTRIBUTION OF PRIVATE WHOLESALERS ACCORDING TO THEIR AREA OF ESTABLISHMENT

Areas	Number
Area of Algiers	**52**
of which Algiers	30
Area of Constantine	**42**
of which Constantine	12
Area of Oran	**23**
of which Oran	7
Southern area	**5**
Wholesalers with non-specified addresses	22
General total	**139**

Interviews with pharmacy managers lead us to assume that these numbers are largely underestimated. The real total number may well be around 150. This is an indication of the attractiveness of the pharmaceutical sector as a source of profit. The absence of precise numbers on these wholesalers indicates the lack of control of the activity by health authorities.

The following assessment may be made in light of our conversations with the managers of private pharmacies. There are at least three types of wholesale enterprises:

- The first type is constituted by the alliance between previous pharmacists, big fortunes, and to a lesser extent, ex-medical representatives. These enterprises, which control the bulk of the activity, have a good knowledge of the market and maintain tight relationships with their suppliers (the PHARMS and private importers). Concentrated around the major urban agglomerations, they are close to the sources of supply and benefit from an important asset, namely their relations. Endowed with a staff that is very knowledgeable of the field, they also employ, or ask for the participation of, previous executives from the public pharmaceutical sector.
- The second type is constituted by small enterprises that are established by pharmacists. These have little impact on the market, given their limited volume of activity. These wholesalers are established in departments that have not experienced a significant development of retail distribution networks.
- The third type is a redeployment or reconversion from other wholesale commercial activities. As a result of both the opening up of the pharmaceutical sector and the privileged status of drugs, entrepreneurs have created enterprises by employing or associating themselves with pharmacists. The technical managers, in fact the pharmacists who are in principle in charge of managing the business, are taken as associates only to satisfy the operating conditions that are established by law.

There were attempts to create cooperatives. In 1993, only one of these cooperatives seemed to be effectively operating (COPHARM, near Oran). It has, however, little impact on the supplies of its members.

The geographic distribution of wholesale enterprises shows the dominance of the area of Algiers. In fact, almost two-thirds of the operating wholesalers are concentrated in a radius of less than 100 km from Algiers.

4.2.3 The Retail Distribution Function: The Network of Pharmacies

The previous paragraph focused on the remarkable development of wholesale drug distribution in the private sector. More than 150 wholesale enterprises were established in less than three years.

This dynamism is even more pronounced in retail distribution. The number of pharmacies has truly inflated since the mid-80s.

EXHIBIT 4-4
EVOLUTION OF THE NUMBER OF PHARMACIES BETWEEN 1990 AND 1992
BY WILAYA (department)

	1990		1991		1992	
	Public	Private	Public	Private	Public	Private
Networks in the center	209.0	372.0	277.0	709.0	403.0	814.0
total	35.9	64.1	28.1	71.9	33.1	66.9
%	17.2	82.8	15.5	84.5	13.3	86.7
Of which Algiers (%)						
Networks in the West	267.0	419.0	274.0	520.0	274.0	648.0
total	38.9	61.1	34.5	65.5	29.7	70.3
%	25.0	75.0	22.9	77.1	19.7	80.3
Of which Oran (%)						
Networks in the East total	456.0	517.0	468.0	711.0	489.0	895.0
%	46.9	53.1	39.7	60.3	35.3	64.7
Of which Constantine (%)	46.9	53.0	39.7	60.3	35.3	64.7
General Total	932.0	1,308.0	1,018.0	1,936.0	1,060.0	2,357.0

The remarkable element concerns the dynamic development of both sectors. The network of public retail distribution was set up in the context of a process of reduction of regional disequilibria. Some agencies, established in enclaved and/or deprived areas, were put in place with a strictly social objective. In all medium-sized cities, especially those experiencing a notable growth, the private sector is largely dominant.

The ratio of inhabitants/pharmacy describes well the effects of these differentiated developments.

EXHIBIT 4-5
NUMBER OF INHABITANTS BY PHARMACY IN SOME REGIONS IN 1992

Areas	Habitants/Pharmacy
Large metropolitan areas:	
Algiers	5,347
Oran	5,126
Constantine	5,972
	5,472
Some northern wilayas:	
Tlecmen	5,540
Setif	8,912
Tizi-Ouzou	12,535
Blida	6,970
Some disinherited wilayas:	
Souk Ahras	10,038
Guelma	7,589
Tissemsilt	13,000
Some southern wilayas:	
El Oued	13,666
Ouargla	11,580
Tamanrasset	82,500

A more detailed classification of the wilayas by developmental level, particularly their urbanization level, would give even more significant results in terms of disequilibria in the geographical distribution of pharmacies. One thing that is clear is that the distribution of private pharmacies is strongly correlated with the degree of urbanization and the wealth of populations.

The development of the private pharmaceutical network dates back to the mid-80s. But it has experienced during the past few years an acceleration which is strongly in contrast with the presumed crisis in the pharmaceutical sector. A stagnation in the levels of consumption and imports did not prevent a high rate of growth in the number of new pharmacies, which was brought about by medical demographics and the absence of recruitment of pharmacists by the public sector.

EXHIBIT 4-6
EVOLUTION OF THE NUMBER OF PHARMACIES BETWEEN 1974 AND 1992, BY LEGAL STATUS

Years	PHARMACIES					
	Public	%	Private	%	Total	%
1974	293	60.7	190	39.3	483	100
1978	394	56.4	305	43.6	699	100
1990	932	41.6	1,308	58.4	2,240	100
1991	1,018	34.5	1,936	65.5	2,954	100
1992	1,060	31.1	2,357	68.9	3,417	100

Source: Derived by the authors based on statistics from the Ministry of Health.

Between 1990 and 1992, the pharmaceutical network grew by 50 percent. In certain wilayas, the network increased fivefold between 1988 and 1991.

4.2.4 The Supplying of Hospitals

To date, supplying hospitals with drugs has been the prerogative of public enterprises. In the absence of a central structure which would be responsible for the supply of the entire hospital system, each hospital determines its own program according to the global budget it has been allocated. Teaching hospitals and health districts are thus separately supplied by the PHARMS.

Budgets for drugs have been allocated without coordination with the importing enterprises, and without any consideration for price trends. Drug budgets have been passively accepted rather than administered. The consequences of the current system of supply will be examined through availability problems. It will be shown that the situation differs from one establishment to another and that even specialized hospitals, which need a narrower range of drugs, face sometimes dramatic problems which hinder their operations.

In summary, the distribution network in both the wholesale and retail functions has rapidly grown during the past few years with a deepening of the private-public dichotomy. This development is directly related to the opening of the pharmaceutical sector to private capital. The dynamism of the distribution sector may be largely attributed to the private sector. The next section looks at the results of this network expansion in terms of product availability.

5.0 THE PROBLEMS OF DRUG AVAILABILITY: THE SURVEY RESULTS

The early 90s, and in particular the years 1991 and 1992, have been marked by disruptions in the pharmaceutical market. Given the significant amount spent on these products compared to other countries of comparable resources, it is urgent to measure and identify the root causes of drug shortages. The first objective of this study is to examine the situation and to try to explain it. The implementation of a program of economic reforms inspired by the policy of structural adjustment that is advocated by the IMF is often considered as the primary cause of the observed malfunctionings.

The central hypothesis of this research is that it is possible, for countries such as Algeria, to move toward a market economy while securing the availability of basic products.

To shed some light on the debate over this issue and to investigate the conditions for the control of the situation constitute the objectives of this second part, which addresses the issues of availability of products in pharmaceutical agencies and hospitals.

The data reported here are the results of a direct survey of pharmacies and hospitals.

For practical purposes, the problems will be discussed separately according to the two modes of access to drugs. There are two reasons for this. The first reason is that pharmacies and hospitals are supplied in different manners and through different channels. The second is that collected data are not homogeneous. Whereas it was possible to rely on a unique list of drugs for pharmacies, it was impossible to do so for hospitals without facing important biases. Considerable differences exist among hospitals such as the teaching hospital in Algiers, the largest in Algeria, and a district hospital.

5.1 AVAILABILITY OF DRUGS IN THE RETAIL NETWORK

Preliminary comments

Availability problems have been the object of a vast press campaign during 1991 and especially 1992. The availability of a drug is not necessarily proven by its presence in the pharmacy the day it is surveyed. A drug can be regularly supplied, but be unavailable at the time the surveyors were present. To circumvent this difficulty, nuances were introduced in the questionnaire. Four different cases have been considered:

- Stock disruption of a drug for at least six months; in this case, it is considered that the drug has practically disappeared from the market and that deficiencies in supply circuits do not explain the shortage.
- Stock disruption for at least three months; the difference in the duration of stock disruption has been introduced to obtain more differentiated qualitative answers to the first question. A disruption in the supply for a duration equal to at least six months can be considered as an absolute shortage. On the other hand, cases of disruption for a duration of three months are frequent phenomena that may be related to administrative procedures.

- Stock disruption for one month; in planned economies, such situations are very frequent. A product can completely disappear from the market, and then reappear abundantly a month later.
- A regular supply; even if the drug is not available the day of the survey, pharmacy managers are required not to take into account this accidental occurrence.

These differences in assessment have been taken into account for data analysis.

5.1.1 Shortages: the Magnitude of the Phenomenon

What is meant by shortage is the complete absence of a drug from all surveyed regions and from all pharmacies. It is worth mentioning an important practical difficulty: drugs come in several dosages, forms, and packaging units. A certain number of pharmacy managers took into account all these criteria. Others did not. It is true that the questionnaire, as it was presented, required a very close collaboration on the part of the respondents. Given this limitation, the availability of a drug is considered through its brand name, without distinction of dosage and/or packaging unit. This approximate approach has the advantage, in an economic study, of aiming at what is essential. For cases with significant dissimilarities, details will be provided.

As a first step, two cases will be considered: the drug is considered either to be regularly supplied or in shortage for at least one month.

EXHIBIT 5-1
DRUG AVAILABILITY AT THE GLOBAL LEVEL BASED ON SOME INDICATORS
(in percentage of all surveyed pharmacies)

Generic name	Regular supply	Out of stock	Generic name	Regular supply	Out of stock
Aluminum hydroxide	30	70	Anphotericine B	10	90
Alginade + Anti-acid	20	80	Tetracycline	10	90
Ranitidine	10	90	Isosorbide dinitrate	60	40
Cimétidine	90	10	Digoxin	70	30
Métoclopramide	40	60	Furosemide	90	10
Métopinazine	30	70	Propranolol	90	10
Trimébutine	40	60	Nifedipine	80	20
Nifuroxazide	60	40	Dhydroerdoxtoxine	70	30
Tiliquinol	1	99	Phenazone + lidocaine	80	20
Lopéramide	70	30	Résacine + ephedrine	50	50
Topical anti-hemorrhoidals	30	70	Alpha amylase	90	10
Triamcinilole	50	50	Phenobarbital	40	60
Dexemethazone	50	50	Opipramol	2	98
Prédnizolone	60	40	Chymotrypsin	30	70
Methyl prédnizolone	30	70	Oxytetracycline	60	40
Bétaméthazone	40	60	Tetracycline	0	100
Hydrocortisone	55	45	Timolol	0	100
Penicillin V	95	5	Framycetine	0	100
Penicillin G	95	5	Paracétamol	98	2
Amoxicilline	98	2	Ac.acétylsalicyclique	80	20
Ampicillin	98	2	Indomethacin	90	10
Cephalosporin (rarely distributed by pharmacies)			Benzodiazepine (rarely sold in pharmacies)		
Doxycycline	70	30	Dicloflenac	80	20
Erythromycin	50	50	Piroxican	50	50
Troleandomycine	50	50	Ac. Niflumic	80	20
Spiramycine	40	60	Dihydroergotamine	90	10
Chloramphenicol or Thiamphenicol	60	40	Ac. ascorbic	60	40
Spectinomycine	2	98	Calcium	40	60
Quinolones	2	98	Retinol	60	40
Métronidazole	60	40	Ac.folic+Sulfate ferrous	20	80
Cotrinaxzole	30	70	Insulin (ordinary)	70	30
Virginiamycine	60	40	Insulin (intermediate)	60	40
Flubendazole	15	85	Insulin (prolonged action)	70	30
Nystatin	60	40	Sulfamide hypoglycémiant	60	40
			Biguanide anti-diabetic	90	10

First observation: very few drugs are in absolute shortage, but very few drugs are available in all pharmacies.

A more detailed analysis which takes into account dosages and forms would have shown a more complex picture. A drug may be available under a certain dosage form but be missing under another.

Second observation: drugs are spread among a large number of pharmacies. This proliferation of pharmacies, in a situation of stable supply, inevitably leads to shortages. Because the volume of imports has not been adjusted to the multiplication of pharmacies, drug quantities are necessarily reduced in each one. Shortages must hence be viewed in a relative perspective.

According to pharmacy managers, the problem of shortages concerns a very small portion of vital products. Given the difficult access to foreign currencies, importing enterprises were unable to adapt their provisioning in both type and volume according to priorities. The absence of coordination among health authorities, prescribers and importers, has led to a compounding of the problem of access to foreign currencies. Another problem, raised by the officials in public importing enterprises, concerns the sluggishness of administrative procedures. Up to six months can elapse between the receipt of products and their effective distribution. During 1992, the Ministry of Commerce forced enterprises to affix labels on drugs upon receipt. This operation, carried out manually on millions of units, has considerably delayed deliveries. The implementation of contracts is also slow. Once finalized, negotiations may last more than one year before ending with a final contract. Public enterprises have become financially fragile because of their outstanding payments and their strong dependency on French laboratories. Having a good knowledge of the Algerian market, the financial difficulties of public enterprises, and the fact that operations are limited by certain lines of credit, some laboratories voluntarily delay the finalization of contracts. Faced with serious shortages and pressures from health authorities, importing enterprises reduce their requirements in terms of prices and delivery conditions.

The central problem, in this context of relative rigidity of supply and strong growth of the retail distribution network, lies in the **modes of supply management**. Poorly organized, and having little knowledge of demand and needs for drugs, the enterprises are unable to adapt their provisioning system to a logic of priority. While some strategic drugs disappear from the market, luxury drugs continue to be distributed. Most pharmacy managers and heads of importing enterprises unanimously agree on this observation. While admitting that they do not manage therapeutic classes, but brand name products, the heads of enterprises also invoke the inability of health authorities to define a supply policy for essential drugs. Each enterprise sets up its own provisioning policy. The differences observed in the availability of drugs according to geographical areas is indicative of this situation.

5.1.2 Availability of Drugs According to Geographical Areas

Disorders in the distribution system manifest themselves in the differences in availability by product and by region.

Survey data on the availability of specific drugs shows the disparity among geographical zones. We distinguish here two cases:

- Case no 1: available in less than 20 percent of surveyed pharmacies (C1)
- Case no 2: available in more than 60 percent of surveyed pharmacies (C2)

EXHIBIT 5-2
AVAILABILITY OF CERTAIN PRODUCTS BY REGION
(July-August 1993)

	Tizi-Ouzou	Algiers	Oran
Aluminum hydroxide	C.1	C.1	C.2
Nifuroxazide	C.1	C.2	C.2
Lopéramide	C.2	C.2	C.1
Triamcinolone	C.2	C.2	C.1
Prednisolone	C.2	C.2	C.1
Cotrinaxozole	C.1	C.2	C.1
Digoxin	C.1	C.2	C.1
Phenobarbital	C.1	C.2	C.1
Propranolol	C.1	C.2	C.1

The illustrations above reveal differences, sometimes very important, between regions but also within the same region. The regions of Tizi-Ouzou and of Algiers are both supplied by the ENAPHARM. It is clear, however, that important discrepancies in availability exist between the two towns in favor of Algiers.

Generally speaking, the capital city Algiers very clearly surpasses other geographical areas in terms of availability. Despite a very strong expansion of the pharmaceutical network, shortage problems are much less acute there.

5.1.3 Availability by Sector

Is this "privileged" situation in Algiers due to a greater dynamism on behalf of the public enterprise ENAPHARM and the private sector?

The analysis of availability by source and channel of supply indicates that the concentration of wholesalers and private importers in the area of Algiers is the reason for greater availability of drugs.

There is a tendency for a segmentation of the wholesale and retail distribution market.

- At the level of the wholesale function, we notice a relative sharing of the market between the APL (the biggest private importer), the three PHARMS and SAIDAL. A product available at APL is rarely available at the PHARMS. The choice of the range of products marketed by APL (products which are important and have a high turnover) indicates a good knowledge of the market and of demand.

The situation in terms of availability of some essential products by type of supplier confirms this hypothesis. The example of a private pharmacy located in Algiers is striking.

EXHIBIT 5-3
AVAILABILITY OF PRODUCTS BY SUPPLIER

Drug	Situation	Supplier
Indomethacin	Available	SAIDAL
Paracetamol	Available	SAIDAL, APL
Acid acetylsalicylic	Available	SAIDAL, ENAPHARM
Mebendazole	Available	APL
Amoxicillin	Available	ENAHPARM
Benzylpenicillin	Available	ENAPHARM
Gentamicin	Unavailable	APL
Tetracycline	Unavailable	ENAPHARM
Metronidazole	Unavailable	APL
Chloroquine	Available	ENAPHARM
Propranolol	Available	ENAPHARM
Digoxin	Available	ENAPHARM
Cimetidine	Available	APL
Ordinary insulin	Available	APL
Chlorpromazine	Unavailable	ENAPHARM
Salbutamol	Unavailable	ENAPHARM
Thiamin	Available	ENAPHARM
Amoxicillin	Available	APL
Diclofenac	Unavailable	ENAPHARM
Prednisone	Available	SAIDAL
Benzathine	Unavailable	APL
Benzyl penicillin	Unavailable	APL

Marketing a much narrower range of products than that of the PHARMS, the APL tends to deal with segments of the market where it rarely competes with public enterprises. The APL drugs are often preferred by consumers, under the influence of doctors who prescribe them systematically. When he does not find the prescribed product (under the same dosage form and the same brand name), the consumer considers the drug to be not available. Prescription habits, very largely influenced by the French system, favor the private importers.

- At the level of retail distribution, important differences exist between the operations of public and private pharmacies: the first is that pharmaceutical agencies which belong to the PHARMS get their supplies exclusively from their mother enterprises. The managers of private pharmacies, on the other hand, are in contact with all suppliers.

- The second difference is relative to the modalities of supply. All private pharmacy managers who were contacted emphasized their efforts to ensure product availability. One of the means they frequently use is the exchange of products. Because they are in permanent contact with one another, they can exchange products. Products that are overstocked in one area are exchanged against missing products in another area. According to pharmacists, this practice accounts in certain cases for more than 30 percent of sales. This phenomenon is particularly revealing of the disruptions in the wholesale distribution function and in the management of demand. The current, and illegal, practice of simultaneous sale should also be mentioned. It is carried out by both public and private enterprises. Drugs that are close to expiry date are imposed on pharmacies along with other orders. This practice, denounced even by managers of public pharmacies, shows that shortages are related to the functions of supply and upstream stocking, that is, they are problems mainly in the management of big importing enterprises and the practices of private wholesalers.

Does this mode of response by private pharmacies to the disruptions in the circuits of wholesale distribution lead to a better product availability? The example of four pharmacies (two public and two private) provides some elements of an answer to this question.

EXHIBIT 5-4
AVAILABILITY OF PRODUCTS BY LEGAL STATUS OF THE PHARMACY
(July-August 1993)

Products	Algiers		Oran	
	Public	Private	Public	Private
Aluminum hydroxide	Unavailable	Unavailable	Available	Available
Ranitidine	Unavailable	Available	Available	Unavailable
Cimétidine	Unavailable	Available	Unavailable	Available
Métoclopramide	Unavailable	Available	Available	Available
Nifuroxazide	Unavailable	Available	Available	Available
Triamcinolone	Available	Available	Unavailable	Unavailable
Dexamhetazone	Available	Available	Unavailable	Unavailable
Methyl prednisolone	Unavailable	Available	Unavailable	Unavailable
Penicillin V	Available	Unavailable	Available	Available
Amoxicilline	Available	Available	Available	Available
Ampicillin	Available	Available	Available	Available
Erythromycin	Available	Available	Unavailable	Available
Doxycycline	Unavailable	Available	Available	Unavailable
Digoxin	Unavailable	Available	Unavailable	Unavailable
Ac.Niflumique	Unavailable	Available	Unavailable	Available
Benzodizepine	Unavailable	Available	Unavailable	Unavailable

Availability differences between the public and the private sectors are very clear in Algiers where private pharmacies have a much better record of drug availability. There is less difference between public and private pharmacies in Oran due to the remoteness of big private wholesalers. The hypothesis that private wholesalers are concentrated seems to be confirmed by the gap in drug availability in the two regions.

The comparison between the two sectors should not hide the significant disparities within the private sector. Comparisons between private pharmacies located in the same geographic zone reveal contradictory situations. Some pharmacies, particularly those in which owners are shareholders in wholesale distribution enterprises, distinguish themselves by clearly higher availability levels. Those differences stem also from the behavior of managers. The majority are permanently on the move in the context of exchanges with colleagues or to inquire about changes in availability in public and private enterprises. Differences are also the result of the strength of the wholesalers' position in the process. The pharmacists who have been questioned about this issue emphasize the discriminations to which they are subjected. Favored relationships with wholesalers allow a pharmacist to obtain larger quantities than other pharmacists and to obtain them even in lines of products with high turnovers. Given the absence of competition, some wholesalers impose not only a concomitant sale but also and, especially, some form of rationing. Even when a product is available, its distribution pattern is highly a function of the relationship between the pharmacist and the wholesaler. The example of three private pharmacies located in Algiers reveals important differences within the private sector.

EXHIBIT 5-5
DIFFERENCES IN AVAILABILITY WITHIN THE PRIVATE SECTOR (JULY-AUGUST 1993)
(Example of three pharmacies located in Algiers)

Drug	Pharmacy #1	Pharmacy #2	Pharmacy #3
Indomethacin 25 mg. tablet.	Available	Available	Available
Paracetamol 500 mg	Available	Available	Available
Aspirin 500 mg	Available	Available	Available
Prednisolone 100 mg tablet	Available	Available	Available
Phenobarbital 100 mg tablet	Available	Unavailable	Available
Mebendazole	Unavailable	Available	Available
Amoxicillin powder, 125mg/5 ml	Available	Available	Available
Benzatine penicillin (1.44g.)	Available	Available	Available
Benzyl penicillin procaine 1g or 1M	Available	Available	Available
Gentamicin	Unavailable	Unavailable	Unavailable
Co-Trimoxazole 480 mg tablet	Available	Unavailable	Available
Erythromycin 250 mg tablet	Unavailable	Unavailable	Available
Tetracycline 250 mg tablet	Available	Unavailable	Available
Metrodinazole 250 mg tablet	Unavailable	Unavailable	Available
Chloroquine 100 mg	Unavailable	Available	Available
Ferrous Salt 60 mg tablet	Available	Unavailable	Unavailable
Propranolol 40 mg tablet	Unavailable	Available	Available
Hydrochlorothiazide 25 mg tablet	Unavailable	Unavailable	Unavailable
Digoxin cp. 0.25 mg D	Available	Available	
Benzoate de Benzyl	Available	Available	Unavailable
Furosemide injection 10 mg/ml	Available	Unavailable	Available
Cimétidine 200 mg tablet	Unavailable	Available	Available
Aluminum hydroxide 500 mg tablet	Unavailable	Unavailable	Unavailable
Métoclopramide 10 mg tablet	Unavailable	Unavailable	Available
Butylhioscine 10 mg tablet	Unavailable	Unavailable	Unavailable
Injectable insulin 40 UI/ml	Available	Available	Available
Tetracycline ophthalmologic ointment 1%	Available	Unavailable	Available
Diazepam 5 mg tablet	Unavailable	Unavailable	Available
Chlorpromazine 100 mg tablet	Available	Unavailable	Available
Aminophylline 100 mg tablet	Available	Available	Available
Salbutamol soluble solution 5 mg/ml	Unavailable	Unavailable	Available
Thiamicine 250 mg tablet	Available	Available	Available
TOTAL PRODUCTS AVAILABLE	19	15	26

On 32 pilot products, one pharmacy (pharmacy no. 3) stands out by its clearly higher availability levels. Another pharmacy (no. 2) is characterized by the absence of more than 50 percent of the sampled drugs. In fact, only three of the sampled products are missing from all three pharmacies. On the other hand, only 11 out of 32 products are available in all three pharmacies simultaneously. Therefore, the problem of drug availability cannot be reduced to real stock disruptions even if very important drugs are sometimes the missing ones.

5.1.4 Availability of Essential Drugs

Advocated by WHO since 1975, the strategy of essential drugs aims at securing availability and accessibility especially at the level of basic health care services. A list of drugs, which is regularly updated, serves as a basis for the development of a pharmacopoeia that each country can use according to its epidemiologic characteristics and its financial means. This strategy has been wrongly associated with a policy for poor countries alone.

The list of drugs chosen for this survey takes into account Algeria's situation, and provides characteristics to explain problems of prices and availability. A certain number of drugs, nearly 50 percent of the sample, may be considered essential drugs. The following table provides data on the availability of some essential drugs in three regions. The Eastern region, which was excluded from the sample, has been surveyed for this particular issue. In this region, four pharmacies, located in the town of Setif (300 km east of Algiers), were visited with an abbreviated questionnaire comprising a limited list of drugs.

EXHIBIT 5-6
AVAILABILITY OF SOME ESSENTIAL DRUGS IN THREE GEOGRAPHICAL AREAS
(available in July-August 1993, in percentage of answers)

Generic name	West	Center	East
Paracétamol 500 mg	90	90	100
Aspirin 500 mg	15	80	75
Amoxicilline 250 mg	90	90	100
Digoxin 0.25 mg	10	90	100
Hydrocortisone 100 mg	15	10	0
Doxycycline	80	80	100
Tetracycline 1%	0	5	25
Aluminum hydroxide 500 mg	80	1	25
Phenobarbital 50 mg	40	30	0
Furosemide 40 mg	100	80	100
Penicillin V	98	90	50
Penicillin G	40	30	75
Metrodinazole	20	15	75
Metoclopramide 10 mg	6	50	75
Chloramphenicol	30	40	0
Folic acid 5 mg	40	50	75

These few examples on availability in the different areas of the country reveal that essential drugs are not privileged. Even though the eastern area is characterized by a relatively larger availability, the situation is not unusual in other respects. It is rare to find cases of total availability or total stock disruption. More frequently, there are cases of differences in availability among regions. These data largely confirm the exchange practices that we previously mentioned and that are relied upon by pharmacy managers. The immediate causes of shortages seem to be a wholesale distribution network favoring the central area of the country and a retail distribution network experiencing a rapid growth throughout the Algerian territory.

5.2 AVAILABILITY OF DRUGS IN HOSPITALS

The supplying of drugs to hospitals partly explains why the current capacity utilization rates are low. Disruptions of supply also occur in replacement parts for heavy materials and in all consumables, which may hinder the normal operation of hospital services. The current crisis in utilization of public health structures results from an investment policy that ignores the issue of recurrent charges. Expenditure constraints are compounded by the administrative management of the budget.

5.2.1 Organization and Financing

Public health structures are organized into:

- Teaching hospitals, to which specialized hospitals may be linked.
- Health districts. These consist of central units (hospitals) and peripheral units (clinics, polyclinics, health centers).

Health establishments are organisms of an administrative type. Their budget is determined at the central level by both the Ministry of Health and the Ministry of Economy. An inter-departmental decree regroups budgets by establishments. These budgets are broken down into ten items of expenditure according to the budgetary nomenclature. Resources are allocated by installment, usually at the end of each trimester.

The centralization and the administrative character of the management of resources make their utilization difficult to analyze. Little is known about the effectiveness and rational use of resources. There has been a noticeable deterioration of the situation during the last years in the fields of drugs, consumables, and medical surgical products.

For simplicity of presentation, the situation in teaching hospitals will be looked at separately from that in the medical districts. The nature and volume of pharmaceutical consumption dictate the distinction. Before presenting the survey results, some data are provided about the share of drugs in the operating budget of public health establishments.

5.2.2 The Share of Drugs in the Operating Expenses of Hospitals

Two items are very important in the operating budget of public health establishments: personnel and drug expenditures.

EXHIBIT 5-7
DISTRIBUTION OF DRUG AND PERSONNEL EXPENDITURES IN THE OPERATING BUDGET OF PUBLIC HEALTH ESTABLISHMENTS (in millions of AD)

	1988	1990	1992*	1993*
1. Personnel	5,869.00	9,582.00	14,103.00	19,213.00
2. Drugs	506.00	800.00	2,671.00	3,000.00
3. Total operating expenditures	8,153.00	12,605.00	25,182.00	26,343.00
2/3 in %	6.20	6.35	10.60	11.38

* open operating credits
Source: Ministry of Health

Budgets for drugs have increased sixfold between 1988 and 1993. Given the tendency for a decrease in the level of drug activity, it may be assumed that the budget increase has offset the effects of price increases that resulted from monetary devaluations. Hence, availability levels should not have deteriorated noticeably.

5.2.3 Magnitude and Causes of Shortages

The survey results show that availability problems cannot be related to financing issues alone. The amount of funds allocated and the monthly rates of satisfaction of drug needs do not necessarily correspond to a reduction in expenditures.

5.2.3.1 Teaching Hospitals

EXHIBIT 5-8
EVOLUTION OF THE RATES OF SATISFACTION* OF DRUG NEEDS
IN THE TEACHING HOSPITAL OF ALGIERS

	1989	1990	1991
January	85	88	91
February	83	95	88
March	72	88	81
May	70	91	68
June	80	89	72
July	78	92	72
September	85	92	71
October	80	89	72
November	84	88	71
December	79	83	80

* Rate of satisfaction: ratio of quantities received to quantities ordered.

The data in *Exhibit 5-8* were provided by the pharmacy department in the "Mustapha" teaching hospital of Algiers. Several comments may be made on the basis of these data.

Generally speaking, the situation has deteriorated from 1991 onwards. However, shortages are not a new phenomena in hospitals. The years 1989 and 1990 were also characterized by shortages.

The second comment concerns the monthly variations in the satisfaction rates of drug needs. The size of the gaps between monthly rates indicates the absence of control of drug supply.

Insufficient supplies seem to be especially related to the lack of coordination between importing enterprises and hospitals. Importing enterprises do not have a supply program specific to hospitals.

Cases of shortages multiplied in the early 90s. Some drugs, as well as consumables and small medical surgical products, were frequently out of stock.

Changes in quantities consumed over a period of three years reveal that the phenomenon is related to supply management.

EXHIBIT 5-9
EVOLUTION OF THE CONSUMPTION OF DRUGS THAT REPRESENT 50% OF CONSUMPTION VALUE (TEACHING HOSPITAL OF ALGIERS)

Drugs	Number of units		
	1989	1990	1991
Calciparine s/c 25000	70,475	80,890	76,847
Dobutrex injection	10,094	8,890	8,737
Totapen inj. 1 gr	124,552	114,924	127,905
Pyostacine comp.	50,382	34,624	21,954
Bristopen inj. 1 gr	61,427	42,922	54,697
Realmentyl	17,208	16,046	—
Adriblastine inj. 50 mg	570	350	340
Bleomycine inj.	1,490	1,115	—
Cefacidal inj. 1 gr	14,720	22,632	—
Radioselectan IV 76%	12,216	3,670	6,857
Penicillin 1 million	96,157	66,988	78,520
Intralipide 20%	2,070	1,788	1,081
Insulin retard	4,822	—	5,333
Insulin NPH	7,148	—	8,712
Zantac inj.	17,895	21,000	12,427
Ordinary insulin	7,041	—	8,658
Claforan inj.	2,294	2,553	—
Diamicron comp.	77,580	87,690	—
Flagyl inj.	15,253	15,931	15,848
Rovamycine comp. 500 mg	75,370	78,371	64,488
Fluothane	1,017	781	994
Heparin inj.	16,732	15,866	14,390
Bristopen inj. 1 gr	—	42,922	54,697
Bristopen comp.250 mg	83,968	—	—
Hydrocortisone inj. 100 mg	21,252	23,605	23,487

It can be noted that rates of satisfaction in *Exhibit 5-8* do not correspond to data on annual consumption units. 1991 seems to be particularly characterized by a fall in consumption. Some products were totally out of stock.

Interviews with the managers of teaching hospitals' pharmacies provided answers to a certain number of questions.

- Concerning magnitude and severity, shortages should be related to the lack of coordination between importing enterprises and pharmacy managers in hospitals. These problems are serious because they affect the regularity of supply. Certain drugs may be overstocked, whereas others are completely missing. For the same budget, shortages may be significantly reduced.

- Shortages affect all drugs including those considered essential. There is no specific policy for high priority products. Again, managers of hospitals' pharmacies are unambiguous about this issue. Drugs that are not essential for the operation of hospital services may be available in abundance, whereas essential drugs are out of stock.

The other teaching hospitals that were surveyed (Oran and Tizi-Ouzou) reveal another phenomenon. Very large differences in the regularity of supply of essential drugs is observed.

EXHIBIT 5-10
SITUATION OF MOST IMPORTANT PRODUCTS IN THE TEACHING HOSPITALS OF TIZI-OUZOU AND ORAN
(in July-August, 1993, in number of products)

	Available	Out of stock (for 1 month)	Out of stock (for more than 3 months)
Teaching hospital of Tizi-Ouzou	62	15	22
Teaching hospital of Cran	29	18	57

These data are based on information provided by the managers of pharmacies in these teaching hospitals. Differences in availability are striking. It has already been noticed that the central regions of the country (Algiers, Tizi-Ouzou) enjoy a greater availability of drugs. Those differences are even bigger in hospitals. As for the pharmacy network, shortages do not affect all products. Drugs may be available in a hospital and be out of stock for several months in another.

EXHIBIT 5-11
AVAILABILITY IN HOSPITALS BY REGION
(example of a few products, July-August 1993)

	Teaching hospital of Tizi-Ouzou	Teaching hospital of Oran
Aspegic inj.	Unavailable	Unavailable
Ampicillin	Unavailable	Available
Digoxin	Unavailable	Available
(Furosemide)	Available	Available
Metronidazole	Unavailable	Available
Streptomycin	Available	Unavailable
Paracetamol	Unavailable	Unavailable
Benzyl Penicillin	Unavailable	Unavailable

5.2.3.2 Hospitals in Health Districts

The supplying of district hospitals faces approximately the same difficulties.

EXHIBIT 5-12
AVAILABILITY OF DRUGS IN HEALTH DISTRICTS
(in product quantities)

	Available	Out of stock (one month)	Out of stock (+ 3 months)
Tigzirt hospital	30	1	35
Azzefoun Hospital	32	8	25
Sig hospital	83	11	34

Differences observed in teaching hospitals between the Central and Western areas of the country do not seem to apply in the case of district hospitals. Whereas teaching hospitals are clearly better supplied in the center of the country, the reverse occurs in the Western areas. One should nevertheless mention that the situation in the hospital of Sig is somewhat peculiar. The apparently larger availability in this hospital indicates that it was well supplied during the first semester of 1993. The person in charge of the pharmacy there specifies that several products that were available at the time of the survey were in fact out of stock in 1992 for prolonged periods of time. This phenomenon can be generalized to all establishments.

5.2.3.3 Specialized Hospitals

Unlike teaching hospitals, specialized hospitals deal with a narrower range of products. Two examples indicate that these establishments face nevertheless the same difficulties. The El Kettar hospital in Algiers (infectious diseases) and the Sanatorium hospital in Tizi-Ouzou (anti-tuberculous) also experience frequent and prolonged stock disruptions of essential drugs.

EXHIBIT 5-13
AVAILABILITY OF DRUGS IN SPECIALIZED HOSPITALS (in units of products)

	Available	Out of stock (1 month)	Out of stock (+ 3 months)
El Kettar hospital, Algiers	23	16	55
Sanatorium hospital, Tizi-Ouzou	10	4	11

Comparisons here are difficult. The Sanatorium hospital of Tizi-Ouzou has provided information only on a restricted list of products. These data reveal the magnitude of the problem of provisioning in hospitals. Specialized in infectious diseases, the El Kettar hospital faces a critical situation. Less than 30 percent of its needs in essential drugs are regularly met.

5.3 CONCLUSION: ARE SHORTAGES A REAL PROBLEM?

The *Larousse* dictionary gives a precise definition of the term shortage: "total lack of what is necessary for nutrition, activity, etc."

If we stick to this definition, then the phenomenon of drug shortage is rare. Very few drugs are out of stock in all distribution networks. The hospital sector must nevertheless be distinguished from the pharmacy distribution network.

All the data that have been gathered point to a fundamental problem: the unavailability of strategic products in public health establishments is not related to a noticeable decrease in the resources allocated to this sector. The lack of a policy geared toward the hospital sector is the primary cause of the observed problems. All officials that have been contacted emphasize the urgency of a coordination between health authorities and public and private importing enterprises. The supply of hospitals is not managed according to a logic of priority needs. Whereas some unused drugs reach their expiry date, the lack of basic drugs hinders the normal operations of some hospital services. Hospital doctors are unanimous on this issue. It is more of a management and an organizational problem than a problem of resources.

A simple question was put to the head of a public enterprise during an interview: in the context of reduced import capacities, did the enterprise set up a supply policy that meets priority needs? The answer was negative. The concerns of health authorities rarely converge with those of enterprise managers.

Shortage problems in the pharmacy network are distinctly less serious. It is the lack of information to both consumers and prescribing agents in the medical profession that amplifies the problem.

Apart from the issue of a lack of information, though fundamental, shortages are primarily the result of a disorder in the distribution network. Disparities among legal sectors, regions, and within the same geographical area indicate that shortages are very often fictitious. This is verified on the one hand because a product is seldom out of stock in all pharmacies. On the other hand, drug substitutes can often be used but are ignored by prescribers and pharmacists.

The main cause resides in the malfunctioning of the distribution network. The rapid expansion of the pharmacy network, in conjunction with a stagnating supply, has compounded the effects of the deficiencies of importing enterprises. Finally, administrative burdens and the slowness in the execution of import contracts have contributed to the multiplication of cases of stock disruptions independently of the slight reduction in foreign currencies allocated to the sector. All enterprise managers who were contacted agree on this essential aspect: shortages of drugs are related to the absence of a pharmaceutical policy based on the knowledge of needs and the nature of demand. The illegal practice of concomitant sales (products that are highly demanded are supplied only if pharmacy managers agree to simultaneously buy products with a low turnover or that are close to expiration) indicates that the pharmaceutical sector is in a serious crisis. This crisis is not the consequence of a reduction in resources. It is rather the result of new dynamics that make drugs no different than any other commodity. Commercial considerations alone are currently driving the drug sector. All kinds of disorders are therefore possible.

6.0 PROSPECTS FOR THE CONTROL OF DRUG SUPPLY

1992 was a particularly disturbing year in terms of drug supply. Health professionals, faced with numerous shortages, especially in hospitals, were the first to call on public authorities for their urgent intervention to remedy the situation. During the third trimester of 1992, the government's economic program clearly stated that restrictions of imports would not affect the drug sector.

The survey, conducted during the months of July and August 1993, shows that most problems, which have been long identified, remain. Despite slight improvements, shortages persist and prices increase without control.

All indicators suggest that the situation has not been the object of a proper analysis, based on factual observation and knowledge of the behavior of concerned parties. The relevance of any measures advocated to secure the availability of drugs depends precisely on such an objective analysis. Examination of the positions of the different concerned parties reveals that the bases of the debate are not yet clearly defined. How is the situation perceived by consumers, health professionals, wholesale and retail distributors, health authorities, and economic authorities? In summary, how is the problem of drug availability posed? The proposed solutions will be examined after presenting the different positions on the issue.

6.1 HOW IS THE PROBLEM OF DRUG AVAILABILITY POSED?

6.1.1 The Position of Health Authorities

In a document entitled "For a national drug policy" and dated October 1992, the Ministry of Health candidly depicts the situation in the drug market. The following elements are mentioned:

- The restructuring of the ex ACP (Algerian Central Pharmacy) into several enterprises, each endowed with a monopoly on imports. This restructuring has aggravated the existing state of affairs already characterized by a lack of knowledge of the needs and the demand for drugs.
- The loss of the government's prerogatives in the public health field. The autonomy of public enterprises would be one of the main causes of the observed dysfunctionings. Public enterprises, being outside the supervision of the Ministry of Health, are managed like any other commercial entity.
- The intervention conditions of the private sector in import and wholesale distribution. The Bank of Algeria has approved dealers without advice from the Ministry of Health.

Many of the elements mentioned in the document of the Ministry of Health are well-founded. Without directly questioning the move toward a market economy, the position of the Ministry of Health is equivalent to reestablishing the preeminence of the government in the drug sector. The proposed regulatory instruments are all of an administrative type. Such a position essentially lacks a definition of priorities and a clear program of action. The economic constraints and the structural problems of the health sector are practically ignored. In fact, this position is only partly shared by health professionals.

6.1.2 Health Professionals

Health professionals do not constitute a homogeneous group. Their positions vary according to whether they are specialists or general practitioners as well as to which sector they practice in, namely private or public. Hospital doctors and managers of hospital pharmacies have a relatively clear position on the means of improving the situation.

This position may be briefly summarized by the creation of **a central pharmacy for hospitals.**

This simple reasoning is based on three elements:

- The first concerns the specificity of the need for drugs in the hospital sector. Drugs consumed in hospitals differ noticeably from those in pharmacies. They must therefore be managed appropriately. Hospital facilities are very important and often under-utilized because of shortages in drugs and consumables. The Algerian drug market is estimated to be around $US320 million in 1990. Hospitals represent 25 to 30 percent of aggregate consumption. This is equivalent to $US96 million, barely more than half the Moroccan market which is estimated at $US160 million (SNIP, 1991).
- The second element is the constraint in foreign currency resources. To better adapt to this constraint, the hospital sector must identify and manage its own needs. A central pharmacy would constitute the most appropriate way to achieve this objective.
- The last element addresses the issue of the causes of drug shortages in hospitals. The position shared by most practitioners is that shortages do not affect nonessential, or even useless, drugs. Therefore, the solution does not reside in an ill-considered increase in quantities. It rather resides in the improvement in supply management methods.

The other health professionals, particularly those in the private ambulatory sector, think that shortages are primarily due to reductions in imports. According to them, the solution would rather be in the increase of the resources allocated to drugs.

6.1.3 Importers, Wholesale and Retail Distributors

The following points were particularly stressed concerning the reality of the shortage and its causes during our interviews with pharmacy managers and wholesalers:

- The problem of shortage has been excessively imputed to a reduction in imports. Certain strategic products have been out of stock because of the absence of a priority based management. Shortages have become a true psychosis because of the fact that certain products, sometimes vital, have been out of stock for prolonged periods of time in 1992. Except for a few cases, many products have been available, although spread out in a constantly growing pharmacy network.
- Shortages are often fictitious. Two elements, considered very important, are mentioned in this context. The lack of information by some pharmacists and the inadequacy in their basic training make them claim that certain drugs are out of stock, whereas their equivalents can be found under a different dosage form or a different brand name. These cases are very frequent, especially when pharmacists are absent from their shops. Their replacements are simple salesmen, often trained on the job, which contributes to a worsening of the situation.
- Over consumption of drugs. According to pharmacists, prescriptions rarely contain less than five drugs. These abusive prescriptions contribute not only to exhaust stocks but also to amplify the feeling of shortage. The same drug is often prescribed under several brand names. These habits are aggravated by the behavior of certain pharmacists who substitute treatments without referring to the doctor who wrote the prescription.

Several wholesalers agree with pharmacy managers on the preceding comments. Managers of wholesale enterprises do not constitute a homogeneous population. To simplify things, two groups are identified:

- The first is constituted by ex-pharmacists who are very familiar with the demand for drugs. These agree on the causes of shortages, whether real or fictitious. The primary cause would be the insufficiency of information on available drugs. Most general practitioners know, at most, 100 drugs. Used to French brand names, they have very little knowledge of other available products in the market. These problems are also to be related to the deficiencies in the pharmacological training of doctors. To summarize, drug shortages can noticeably be reduced by improving the information available to prescribing agents.
- The other group of wholesalers hold on to the idea that the causes are of a purely commercial type. Drugs are out of stock because of the reduction in imports and because of administrative obstacles. For this second group, which is larger, managing supplies according to priority needs is incompatible with the rules of operation of a market economy. The only way to improve availability conditions is to ease the procedures of access to external markets, i.e. to foreign currencies. The majority of pharmacy managers largely share this opinion.

6.1.4 Consumers

Despite an improvement in the level of schooling, particularly of women, and an improvement in the level of education, drugs are to consumers products beyond their control. The consumer has to put up with shortages because he has to rely on the judgment of his doctor. He is convinced there is a shortage as soon as he does not find a drug under the same brand name as in the prescription. The consumer believes that the burden of responsibility falls undeniably on doctors and health authorities.

6.1.5 Economic Authorities

Given the nonconvertibility of the currency, economic authorities are in a very delicate position. They simultaneously manage external equilibria and the transition toward a market economy. Two points of view frequently emerge:

- The first advocates the return of pharmaceuticals to the public monopoly domain. The problems due to the intervention of the private sector (especially in terms of import prices) would be solved by the reestablishment of a state monopoly in the pharmaceutical sector.
- The second hopes for a definition and a distribution of responsibilities between the Ministries of Economy and Health. The Ministry of Health would define priorities and the Ministry of Economy would arbitrate the allocation of resources. Half-way between the reestablishment of a public monopoly and an administered liberalization, this solution forces the Ministry of Health to be more responsible. The persons in charge of the drug problem currently face obstacles such as autonomous enterprises and a Directorate for pharmaceuticals that is unable to give data on the needs or on the drugs market. The absence of coordination in this domain compounds the difficulties.

6.2 THE PROPOSED SOLUTIONS

The solutions currently proposed in official documents to ensure a better availability of drugs primarily focus on:

- The establishment of a central pharmacy for hospitals
- The creation of a public holding for drugs. An enterprise specialized in drug imports would be established within the framework of this holding
- The encouragement of national production especially in the framework of partnerships

Simultaneously, organizational measures have also been planned. Several decrees related to the pharmaceutical sector have been issued in order to start strengthening the Directorate of pharmaceuticals and its management.

The analysis of these various actions is beyond the scope of this study. Three essential comments are nevertheless made:

6.2.1 Responsibilities Are Not Clearly Defined

The roles of the various parties involved (public and private enterprises, Ministry of Health, Ministry of Economy, prescribers, wholesalers and retailers) are not clearly identified. Urgent consideration should be given to the clear definition of the respective responsibilities. The Directorate of pharmaceuticals, which is the privileged instrument for devising and following up on policies in the field of drugs, is currently a structure which lacks resources and influence. The prerequisite for the Ministry of Health to assume its responsibilities is to establish an effective structure which is able to centralize the necessary information and to organize the coordination among the various parties.

6.2.2 The Indecisiveness of the Authorities

Of the two projects concerning the establishment of a central pharmacy for hospitals and a pharmaceutical public holding, none has been implemented. The project for the establishment of a central pharmacy for hospitals has been initiated in the beginning of 1991. A bill has even been proposed. By the end of 1993, nothing had been accomplished. The exact reasons behind these blockages are unknown.

The same applies to the public pharmaceutical holding. Proposed in 1993, it appears that it is facing strong opposition. The creation of this holding is seen by many as a come-back of the ex-ACP (Algerian Central Pharmacy).

6.2.3 Public/Private: What Complementarity?

This is undoubtedly the stumbling block of all current debates. Although confirmed by law, the status of public enterprises in the pharmaceutical field remains ambiguous. They are required to simultaneously abide by market rules of financial profitability and to operate within a framework of social objectives. Had they followed market rules only, public enterprises would have stopped supplying hospitals. The indebtedness of hospitals has often put public enterprises in a difficult financial situation.

The conditions for the intervention of the two sectors constitute a fundamental issue. The current propositions, the objective of which is to reestablish public monopoly on pharmaceuticals, do not seem to consider the importance of a retrospective analysis of the deficiencies of public enterprises. They also disregard the financial constraints faced by the development of a national pharmaceutical industry.

Between these two extremes, total privatization of the sector and a return to public monopoly. there are intermediary solutions. They will be presented in the conclusions of this study.

6.2.4 Which Mechanisms and Which Regulatory Instruments?

This fundamental question is related to the preceding point. The complementarity conditions of the public and private sectors cannot be dissociated from the issue of the fixing of drug prices and the modalities of financing of health expenditures. Algeria has already experienced a free health care system. This currently applies only to hospitalized patients. Given supply conditions in hospitals, patients benefiting from this free health c. ystem are fewer and fewer. The access to drugs and their availability are largely managed by market economy rules. The regulatory instruments currently envisaged ignore essential problems. How to control prices? How to control and regulate pharmaceutical consumption? What should be the role of the public sector with respect to these immediate requirements?

The second part is deals with the issue of prices during the past years. It will be shown that availability and accessibility issues are incompatible. There are intermediate solutions between the free market rules and the exercise of public monopoly. Can the transition toward a market economy be accomplished while preserving the interests of the community? How can this adequation be achieved? and with what means?

7.0 DRUG PRICES: DATA, CAUSES

The previous four sections examined drug availability. This second part is concerned with the analysis of drug prices.

The objective is twofold:

- ***To give an account of the situation.*** The situation has been evolving very rapidly since the implementation of economic reforms which are, to a large extent, inspired from the structural adjustment program. The magnitude of price increases has placed health and social institutions, consumers, and sellers in highly uncertain conditions. The inability of the various parties concerned to put forward solutions, or at least to engage in objective debate, results from a lack of precise factual data. Our first objective, in this part of the study, is, therefore, to provide primary data.
- ***To try to provide explanations of the observed facts.*** The factors behind price increases and the existence of sharp price disparities will be reviewed. The identification of these factors is a prerequisite to the definition of short- and medium-term measures that are intended to remedy the situation. In a transitional period, changes occur very rapidly and at several levels, and are most of the time uncontrollable. The shift from a planned economy to a market economy is always characterized by many dysfunctionings.

This second part is organized in four sections.

Section 7.0 discusses the change in the regulatory framework of price fixing. In planned economies, conventional economic parameters have little impact. An important modification took place in the late 80s: price fixing became less and less subject to regulations. Insufficiencies nevertheless appeared. What are these insufficiencies? Between the extremes of administered prices and the free operation of market rules, alternatives do exist. The government can retain important economic levers, such as setting exchange rate policy and conditions for access to foreign currencies.

Section 8.0 provides data on the evolution of prices. Explanations on price increases and price disparities are proposed, in addition to measuring the increase in drug prices.

Section 9.0 discusses the consequences of the evolution of prices on the parties concerned in the drug market: consumers, hospitals, the social security organism, and sellers. What has the impact of price increases been on the various agents in the drug market?

Section 10.0 presents the measures that were advocated in 1992-93 to control drug prices. The positions of the various agents are also presented. This allows us to better assess how the current problems are viewed by the various actors. The discrepancies between reality as revealed by the survey and the perceptions of agents will be clearer.

7.1 FROM ADMINISTERED PRICES TO FREE PRICES: THE CONDITIONS AND MEANS OF THE TRANSITION

During the 70s, prices were not freely determined. Domestically, it was because of administered prices rules. On the foreign level, it was the exchange rate policy. These two types of government intervention will be reassessed by economic reforms.

The following presentation is made in two stages:

- The first one will review domestic price policies.
- The second one will discuss monetary policy, particularly the exchange rate policy. These two elements are fundamental for the understanding of the current difficulties in conceiving and applying regulatory mechanisms in a period of transition.

7.1.1 The Evolution of the Regulatory Framework

There are two important milestones in the evolution of the regulatory framework. The first one is characterized by the prevalence of administrative rules in setting prices. The second is the promulgation of a law on prices which limits the conditions and the levels of government intervention in this domain.

7.1.1.1 Administered Prices

Prices were managed from the early 70s to the late 80s.

The decree '*no 75-37 of the 29th of April 1975 relative to prices and to the repression of infringements to price regulations*' distinguishes between four price rules:

- fixed prices
- special prices
- stabilized prices
- controlled and authorized prices

Without going into much detail in the procedures specific to each of these different rules, it is worth remembering that:

- The first three categories concern products for which the prices are not directly related to real costs. For example, special prices are "fixed for a finite period of time, independently of their cost and distribution price, at a level that permits to supply either certain stricken populations with current consumption goods or some industrial enterprises or certain farms, that need to be promoted, with raw materials and equipment". Fixed prices and stabilized prices are also determined by this same logic that does not take costs into account.

These general principles of the decree gave rise to application decrees and a series of inter-ministerial, ministerial and departmental orders. The central administration, namely the Ministry of Commerce and the Ministry concerned by the activity, determine which products are subjected to these price categories.

The fourth category of prices, controlled and authorized prices, concerns all products not covered by the three other categories.

This mode of price fixing has been the origin of the worst dysfunctionings of the economy. The following reasons are among the most evident ones:

- The gap between production and distribution costs and ruling prices became increasingly important. The measurement of both labor and capital productivity became impossible. Worse, no system of sanction, be it negative or positive, could be applied through market channels.
- All strategic decisions, both at the micro and macro-economic level, were taken independently of costs, be it absolute or relative.

Economic developments, however, prevented this policy from having its full impact. Failures of central and local administrations hindered the application of this policy. Already the task of planning the whole economy in a country lacking the necessary skills was a challenge. The successive administrations were unable to cope, and even less to deal, with the dysfunctionings that were increasingly affecting economic and social life.

Fixing prices through a central administration is often the source of the development of a speculative economy. In Algeria, national production, as well as imports, were insufficient to satisfy demand. Parallel markets expanded considerably. Fortunes were made under the system of price management. Products which had administratively fixed prices at 10, for instance, were being sold with profit margins of 100 percent, if not 1,000 percent.

It is also worth mentioning that the fourth category of prices mentioned above, controlled and authorized prices, specifically concern private sector production. The first three categories were essentially applicable to production and imports by the public sector. The private sector, benefiting from a protected market, and facing a rapidly growing demand, enjoyed high rates of profit. The counterpart to this dynamic is very low productivity. Financially profitable, the private sector is also very fragile.

Price management has had therefore, in principle, economic and social objectives. Despite an undeniable improvement in the standard of living of large segments of the population, neither objective has been attained. The large income disparities among social groups and the poor performance of the economic system clearly prove it. These disparities were much more important in the 80s and 90s.

7.1.1.2 The 1989 Law on Prices: Towards a Rehabilitation of the Market Economy

Around the mid 80s, following a shrinkage in foreign resources, a program of economic reforms was initiated. The *"law no 89-12 of July 5, 1989 relative to prices"* materialized the will to rehabilitate market economic laws.

According to its initiators, this law intended to put an end to:

- The rigidity of the four price rules.
- Macroeconomic and micro-economic disequilibria, and more precisely the lack of rationality in the allocation of resources.
- The development of inflationary tensions and illegal commercial practices.

This law established two categories of prices:

- **Regulated prices.** Regulation is made according to two procedures:
  - The first consists in guaranteeing production prices for a certain number of goods. This guarantee aims at encouraging and stimulating the development of certain activities such as the production of cereals, dried vegetables etc. in the agricultural sector. The objective is to ensure, in fact, a minimal revenue in activities considered of national interest.
  - The second is to put a ceiling on production and distribution margins. This second procedure concerns goods and services that are considered strategic or of prime necessity. It can also apply to products that rank high in the priorities of the central authorities when making socioeconomic decisions.
- **Free prices**. They apply to all goods and services that are not subject to price regulations. The law requires, however, that price structures be made public and communicated to the administration. In certain cases, ceilings on commercial margins may be applied.

This law on prices is somehow coherent in its general principles and objectives. This coherence should be assessed in the context of a transitional period. The law allows for a progressive shift toward a market economy. Each year, and depending on progress made, products are shifted to the free price rules.

7.1.1.3 The Rules Applicable to Drugs

With the 1989 law, drugs are under the rules of regulated prices. Prices are regulated by means of a ceiling on production and distribution profit margins. A decree from the Minister of Economy on "March 20, 1990 relative to ceilings on production and distribution margins" fixes production and marketing profit margins of drugs.

Net Production Margin	15%
Gross Distribution Margin:	
▲ Wholesale level	20%
▲ Retail level	40%

Drug prices are hence fixed on the basis of relative margins.

The calculation base is "the (CIF) price increased by the legally permissible duties, taxes and royalties, auxiliary expenses and distribution margins."

The *"executive decree no 93-115 of May 12, 1993 relative to the modalities of determination of the price structure of drugs and veterinary products"* fixes precisely the mode of determination of drug prices. Commercial margins at the wholesale and retail levels remain unchanged.

THE CALCULATION BASE OF DRUG PRICES

CIF price plus duties, taxes and royalties, auxiliary expenses and distribution margins.

The CIF price is determined on the basis of the FOB price converted in dinars at the exchange rate determined by the Bank of Algeria when the products cross the borders.

In the absence of vouchers, freight, insurance and auxiliary expenses are calculated as follows:

- Freight: 3% of FOB
- Insurance: 0.3% of FOB
- Auxiliary expenses (auxiliary expenses comprise unloading and handling fees, transit fees and transport fees from the time products cross the borders until delivery to the importer. When these expenses are not clearly identified, a rate of 2.5% of the CIF price is applied.

Outside of free prices, the price of drugs depends in fact on two fundamental parameters: import prices and relative margins.

According to all pharmacy managers and health professionals who have been interviewed, drugs have always benefited from subsidies, as have products such as cereals, dairy products and their derivatives, oils etc. Low drug prices and the symbolism attached to drugs partly explain this misperception of reality. In fact, low prices result from three factors:

- International drug prices have changed little compared to the majority of other imports;
- The bargaining power of importing public enterprises — advantageous prices were obtained in view of the size of the Algerian market;
- An exchange rate policy that has overvalued the national currency with respect to foreign currencies. Because this factor is of great importance, it will be discussed in detail.

7.2 THE EXCHANGE RATE POLICY AND ITS EFFECTS ON DOMESTIC PRICES

The subsidization of drug prices, as of all other imported merchandise, has been indirect. Low drug prices result from the exchange rate between domestic and foreign currencies. Even if well negotiated prices were obtained by public enterprises, the essential factor behind low prices remains the over valuation of the purchasing power of the dinar with respect to foreign currencies. The consequences of such a policy will not all be described here. It is enough to say that there has been:

- A lack of truth in the real costs of imported goods.

- Discouragement of every attempt to substitute local production for imports. However, it is made to appear as if the exchange rate policy has had no negative impact whatsoever on domestic prices and the general evolution of the economy.

The result of this policy is clear in the drug market: prices are among the lowest in Third World countries with comparable incomes.

EXHIBIT 7-1
SOME PRICES IN NATIONAL CURRENCIES IN 1987

Brand Name	France FF	Algeria AD	Tunisia TD
Aspegic	13.00	5.85	1.09
Doliprane	9.60	3.55	0.40
Totapen	19.80	7.00	1.19
Nifluril	17.10	13.10	1.45
Extencilline	8.90	3.15	0.24
Tagamet	124.80	90.50	9.75
Thiophenicol	17.10	11.30	1.51
Bactrim forte	22.90	7.95	2.07
Aldomet	24.10	9.95	1.55
Digoxin	15.40	3.75	0.65

1 AD = 1.3 FF
1 TD = 7.04 FF
Source: J. Dumoulin and M. Kaddar: Prices of drugs in certain African countries. "Sciences Sociales et Sante" (Social Sciences and Health), Vol VIII, n°1, May 1990.

These data show the effect of monetary policy on the level of drug prices. Notwithstanding the bargaining power of public enterprises, the level of prices is primarily determined by the ruling exchange rates during that period of time. That is even more obvious since 80 percent of drugs consumed in Algeria are imported and at least 60 percent of these imports are from France.

With the new monetary policy initiated by the Bank of Algeria, data are radically transformed.

Devaluations are rapid and massive.

EXHIBIT 7-2
EVOLUTION OF AVERAGE EXCHANGE RATES BETWEEN 1986 AND 1992 (AD/$)

1986	1987	1988	1989	1990	1991	1992
4.70	4.85	5.92	7.61	8.96	18.67	22.16

From 1990 onward, domestic prices have been soaring. The use of forward exchange rates has complicated the situation even more.

EXHIBIT 7-3
FORWARD EXCHANGE RATE
(Quotations of 6/01/92)

AD/units at Currency	Number	3 months	6 months	12 months	24 months
USD	1	25.2384	27.8953	32.3672	36.6099
F.F	1	4.4409	4.8578	5.5565	6.1276
D.M	100	1,504.8002	1,647.1047	1,887.3334	2,076.6487
Lira	1,000	19.8978	21.6644	24.5968	26.6168

The exchange rate policy aims at restoring the real purchasing power of the national currency. The exchange rates applied at the end of 1990 are still contested by international organizations such as the IMF. New devaluations should therefore be expected which will in turn immediately affect the level of drug prices.

8.0 THE EVOLUTION OF DRUG PRICES

The issue of prices is central these days. It is, however, remarkable that almost all economic agents concerned have been unable to clearly explain the developments that are observed.

In this chapter, these developments are presented and analyzed.

8.1 THE EVOLUTION OF DRUG PRICES

8.1.1 The Past Evolution

The period analyzed is between 1988 and 1993. This period covers the years of design and implementation of the economic reforms as well as the new monetary policy of the Bank of Algeria.

From 1969 to 1989, drug prices increased at an average annual rate of 1.5 percent, i.e. a total increase of around 30 percent for the period. The other consumption goods increased by about 400 percent in 20 years.

These price changes are related to a relatively small increase in drug prices in the international market. This increase is not, however, negligible (more than 80 percent in ten years) as can be seen from the data by the "SNIP" (National Association of Pharmaceutical Industries). French products, a majority in Algeria, increased prices by a rate much higher than most other products. More than 60 percent of drugs consumed in Algeria are bought in France.

EXHIBIT 8-1
COMPARATIVE EVOLUTION OF THE COST OF LIVING INDEX AND THE CONSUMPTION PRICE INDICES OF HEALTH SERVICES AND PHARMACEUTICAL PRODUCTS IN FRANCE (1980 = 100)

	1981	1984	1989	1990
Cost index	113.4	149.3	158.0	184.8
Price index of health services	109.4	136.3	155.6	155.4
Price index of pharmaceutical products	110.2	124.9	131.7	128.8

Source: "SNIP": the pharmaceutical industry, its realities, 1991

The favorable evolution on the international level, and the conditions of price negotiations, explain the small increase in domestic drug prices. The data on the evolution in Algeria support this hypothesis.

EXHIBIT 8-2
COMPARATIVE EVOLUTION OF CONSUMPTION PRICE INDICES OF FOOD PRODUCTS AND MEDICAL GOODS AND SERVICES IN ALGERIA (1982 = 100)

	Annual Indices				
	1983	1986	1988	1990	1991
Food and beverages	105.4	149.2	166.7	215.4	257.7
Prescription drugs	94.1	113.6	116.4	129.9	179.7
Nonreimbursable drugs	109.1	132.4	175.2	233.7	338.8

Source: Derived from data by the "ONS" (National Office of Statistics). "Collection Statistiques", no 35.

Prices started soaring in the late 80s. One reason was the currency devaluations. Other factors were also responsible. Before discussing the mechanisms of price formation and the effects of the system of commercial margins, the rate of price increases must be assessed for the period under study. All following data were obtained from our survey.

8.1.2 The Evolution of Prices between 1988 and 1993

Price comparisons between 1988 and the period of the survey (July-August 1993) are very difficult. There are various reasons for that. Public enterprises that were surveyed were unable to provide the required data.

- Data on public prices were directly obtained in a pharmacy located in the central area (Tizi-Ouzou). It can be assumed that prices in 1988 were uniform all over the country.
- Another difficulty stemmed from the fact that generic drugs can have several dosage forms. Data that were gathered were not easily comparable. The diversity of branded products also complicates the analysis. Some drugs are in fact known by their brand name alone. Questionnaires were based on generic names. Some of the surveyed pharmacies did not take into account this fundamental element. The data that are presented are the result of a careful processing of the questionnaires. A process of selection was therefore necessary. Questionnaires that were best informed were chosen as references. From all drugs chosen for the questionnaire, only those for which the evolution of prices is complete over the reference period were considered at this stage of the analysis.

EXHIBIT 8-3
EVOLUTION OF PRICES BETWEEN 1988 AND 1993 IN CURRENT AD:
EXAMPLE OF SOME PRODUCTS

Generic Name	Dosage form (Unit of condition-ing)	1988 Price	1993 Price
Aluminum hydroxide	250 ml bottle	8.50	100.70
Aluminum hydroxide	Bag B/25	14.70	—
Aluminum hydroxide	Bag B/20	—	60.86
Ranitidine	B/20 tablets	10.50	—
Ranitidine	B/30 tablets	—	69.88
Cimetidine	B/50 tablets	29.05	570.70
Metoclopramide	B/40 tablets	1.46	29.79
Metoclopramide	200 ml bottle	3.62	53.35
Trimebutine	B/20 tablets	15.90	37.10
Nifuroxazide	B/30 capsules	12.20	106.18
Loperamide	B/20 capsules	15.20	15.40
Triamcinolone	B/1 injection	22.90	116.16
Prednisolone	B/30 tablets	10.73	32.44
Methyl prednisolone	B/1 injection	11.95	38.35
Betamethasone	B/30 tablets	7.10	40.70
Penicillin V	B/12 tablets	6.05	20.30
Penicillin G	1 amp.	2.75	12.75
Amoxicillin	B/12 capsules	5.90	139.16
Ampicillin	F/8 capsules	8.93	127.26
Doxycycline	B/5 tablets	3.25	—
Doxycycline	B/16 tablets	—	13.00
Spyramicine	B/16 tablets	25.35	158.70
Tiamphenicol	B/16 tablets	14.20	101.14
Virginiamycine	B/16 tablets	42.40	222.66
Digoxin	B/30 tablets	3.55	—
Digoxin	B/20 tablets	—	62.65
Propranolol	B/50 tablets	3.45	82.02
Nifédipine	B/30 tablets	4.10	126.25
Timolol	3 ml bottle	21.15	35.35
Framycetine	15 ml bottle	5.40	38.11
Resacine + ephedrine	10 ml bottle	8.65	45.54
Paracétamol	B/20 tablets	3.55	67.54
Indomethacin	B/30 capsules	16.40	55.88
Indomethacin	10 suppositories	2.70	18.70
Piroxican	B/30 capsules	45.58	283.00
Phenobarbital	B/20 tablets	15.00	28.02

The above data are indicative of the dysfunctionings in the drug market.

Two important observations can be made:

- The first concerns the very high price increases between 1988 and 1993. To calculate an average growth rate, prices of all marketed drugs are required as well as their respective shares in total sales. Despite these shortages in data, the observed increases are very important. In the retained sample, more than 70 percent of the drugs had price increases of more than 600 percent. Over the previous two decades, the total increase in drug prices was around 30 percent. In less than five years, prices have increased by more than fivefold.
- The second observation, which is equally important, concerns the very noticeable differences in the increases of drug prices. The prices of some drugs have increased proportionately with monetary devaluations. The increases in the prices of other drugs cannot be explained by the depreciation of the currency alone.

8.2 FACTORS BEHIND PRICE INCREASES AND DISPARITIES

The comparative evolution of drug prices indicates that devaluations are not the sole cause of price increases. Official exchange rates evolved as follows between 1990 and the end of 1992:

	1990	1991	1992
AD/FF	1.50	3.50	4.20

AD: Algerian Dinar
FF: French Franc

During this period, prices changed very little in international markets. Given this fact and the devaluations, prices should have increased by around 300 percent.

EXHIBIT 8-4
THE EFFECT OF DEVALUATIONS ON PRICES BETWEEN 1990 AND 1992
(Example of the "Pyostacine cp. 500 mg" drug)

	1990	1991	1992
FOB price in foreign currency (FF)	64.02	64.02	64.02
Currency rate (AD/FF)	1.50	3.50	4.20
FOB price in AD	96.03	224.07	268.88
CIF price	106.11	247.07	296.88
Royalties and taxes (10.5% in '90 and '91, 15% in 1992)	15.40	35.95	42.90
Auxiliary expenses (5% in '90 and '91, 2.5% in 1992)	5.30	12.38	7.40
Wholesale margin (20%)	21.22	49.52	59.20
Wholesale price	148.03	345.44	405.50
Retail margin (40%)	59.21	138.17	162.20
Consumer price	207.24	483.61	567.70

Source: Ministry of Economy

The increase in prices resulting from devaluations is of the order of 274 percent. The survey on the other hand revealed increases in prices largely superior to that rate. In fact, the exchange rate has been relatively stable since 1992. Prices, therefore, should not have increased significantly between 1992 and 1993. The survey also reveals that price increases greatly vary with the nature of the product.

EXHIBIT 8-5
EVOLUTION OF PRICES BETWEEN 1992 AND 1993
(Examples of some products)

	1992	1993	Difference in %
Aluminum hydroxide	18.90	100.70	+432.8
Ranitidine	39.80	69.88	+68.0
Metoclopramide	12.10	53.35	+340.9
Prednisolone	15.90	32.44	+104.0
Tiliquinol	22.90	79.30	+246.3
Penicillin V	8.90	20.30	+128.1
Ampicillin	18.90	39.30	+107.9
Spyramycin	48.60	158.70	+226.5
Doxycycline	8.45	13.00	+53.8

These data clearly indicate that **currency devaluations are far from explaining all observed price increases.** The types of products and purchase prices seem to constitute the most important factors behind price increases.

The comparative price changes by region supports this hypothesis. Differences in prices for the same product are in fact significant.

EXHIBIT 8-6
EVOLUTION OF THE PRICES OF SOME PRODUCTS BY REGION

	Dosage Form	The Oran Region		The Algiers Region*		Difference between regions
		1992	1993	1992	1993	For 93%
Aluminum hydroxide	250cc oral sus.	32.85	32.85	18.90	100.70	206.5
Ranitidine	B/30 tablets	76.00	76.00	39.80	69.88	8.8
(Alpha-Amylase)	B/20 tablets	131.12	131.12	—	65.85	99.1
(Indomethacin)	B/10 suppos.	134.97	134.97	5.25	155.32	15.1
Diclofenac	B/10 suppos.	30.07	21.20	9.80	30.07	41.8
(Troleandomycin)	B/16 tablets	130.35	130.35	30.30	138.76	6.5
Thiamphenicol	B/16 tablets	47.00	105.68	14.10	101.14	4.5
Propranolol	B/30 tablets	13.95	13.95	—	—	—
Propranolol	B/50 tablets			18.80	28.85	—
Calcium	B/20 tablets	37.00	59.30	14.90	76.80	29.6
Folic acid	B/20 tablets	30.00	29.80	3.55	14.55	104.8

* Including the department of Tizi-Ouzou

Drugs are sold at different prices (up to three times) in different areas during the same periods of time.

Price differences are also very significant depending on suppliers. The results of the survey show that prices vary among public distribution and production enterprises. Differences are particularly significant according to the legal status of the importer.

EXHIBIT 8-7
EXAMPLES OF PUBLIC PRICES (JULY-AUGUST 1993) BY VARIOUS SUPPLIERS

	Dosage form	ENAPHARM	SAIDAL	APL
Cimétidine		30.00	–	570.00
Metoclopramide		–	57.70	80.00
Nifuroxacid		15.20	–	99.90
Penicillin V		44.00	39.65	130.00
Amoxicillin		42.90	–	91.20
Ampicillin	250 mg capsules	43.67	–	127.26
Ampicillin syrup	60 ml bottle	47.91	–	76.62
Thiamphenicol		–	66.00	101.14
Alpha amylase		71.92	–	135.12
Paracetamol	B/20 tablets	15.13	18.76	59.87
Indomethacin	B/10 suppository	17.47	–	134.97

The comparisons above have been established by taking into account the various dosage and unit forms. Therefore, the same exact products have been compared.

Very big differences are noticed between public and private enterprises. Drugs marketed by the APL are consistently more expensive.

Price differences stem essentially from differences in brands. The private sector sells the most expensive brands.

EXHIBIT 8-8
PRICE DIFFERENCES BY BRANDS

Products	Dosage form	Price difference	Distributor
1. **Aluminum Hydroxide**	250 ml oral suspension	65.45	ENOPHARM
Gaviscon	250 ml oral suspension	32.85	APL
Gastrogel			
2. **Ranitidin**	B/30 tablets	69.88	ENAPHARM
Ranitidin	B/20 tablets	65.00	ENOPHARM
Ranitil			
3. **Alpha-amylase?**	B/20 tablets	131.12	ENOPHARM
Maxilase	B/24 tablets	65.85	ENAPHARM
Danilase			
3. **Indomethacin**	B/10 suppository	134.97	ENOPHARM
Firmacin	B/10 suppository	67.85	ENAPHARM
Indocid			

Several other examples exist.

All the data gathered confirm that price increases are not attributable to devaluations only. In fact, the relations with respect to the external drug markets have changed. The intervention of the private sector has undoubtedly contributed to a better availability of products in certain classes of drugs but has also induced increases in drug prices.

9.0 THE IMPLICATIONS OF THE EVOLUTION OF PRICES

The implications of the evolution of prices are several, including:

- A reduction in the access of consumers to drugs
- A heavy contribution to budgetary imbalances of Social Security
- A significant increase in drug expenditures in hospitals
- A tendency for a perversion of the function of the pharmacist
- And finally turning drugs into a commodity

The drug sector has thus become a lucrative activity like any other activity. Drugs are not public health goods but essentially a source of profit for distributors.

9.1 THE CONSEQUENCES OF THE EVOLUTION OF PRICES ON THE ACCESSIBILITY OF DRUGS TO CONSUMERS

The issue of the access of consumers to drugs was addressed in the survey through a simple question: "Are there instances when consumers buy only a fraction of the drugs that have been prescribed to them because prices are too high?"

Most pharmacists (75 percent) answered affirmatively. This simple question, however, is not sufficient to analyze the issue of accessibility. In fact, it is not because consumers buy all the products they are prescribed that the problem of accessibility does not arise.

In principle, 80 percent of the population benefit from social coverage. Around five million people, i.e. 20 percent, are not affiliated with Social Security (the unemployed and the self-employed). For this population, prescription prices are exorbitant. During our conversations with pharmacy managers, one phenomenon has been clearly identified in relation to the degree of observance of prescribed treatments. Many consumers, within the categories of uninsured or low income people, are unable to buy all the necessary drugs. Some pharmacists refuse to fill part of the prescriptions only. Others comply with their clients' requests.

This very serious phenomenon has not been quantified. Although it concerns only a small part of the population, it nevertheless raises the issue of the conditions of protection of certain categories in the population in the context of implementing market rules. The problem of accessibility must also be linked to prescription habits. Prescriptions are very costly because they are often loaded. Uninformed, consumers bear directly the effects of price increases and abusive prescriptions. The phenomenon is even more amplified by the system of relative margins. Pharmacists have a natural tendency to sell the most expensive drugs since their profit margin is a percentage of their sale price.

Apart from some positive aspects relative to a reduction in self-medication, price increases raise the issue of protection mechanisms for low-income groups. The identification of these mechanisms and the techniques of protection that must be implemented are questions that have presently no satisfactory answers.

9.2 THE CONSEQUENCES ON HOSPITAL MANAGEMENT

Given the burden of the already existing financial constraints, alternatives are not numerous. The problems faced by hospitals are not problems of availability only. Price increases dangerously inflate drug expenditures.

EXHIBIT 9-1
EVOLUTION OF ACQUISITION PRICES IN A DISTRICT HOSPITAL (TIGZIRT)
BETWEEN 1991 AND 1993
(A few examples)

Drug	Price in 1991	Price in 1993	Difference in %
Polyvidone (sol. bottle)	8.41	29.11	246.1
Troleandomycin (syrup)	22.05	60.40	173.9
Sulpiride (capsules)	164.76	201.89	22.5
Diazepam (10 mg tablets)	1.68	11.06	558.3
Nifedipine (10 mg tablets)	7.60	91.16	1,099.5

- If the present system of financing and management remains in place, supply problems will almost surely worsen in hospitals. The issue is not the level of resources but rather their utilization. The shift of the pharmaceutical sector toward operating modes that are based on market incentives will create problems in the management of supplies. The present mode of budget determination and its allocation conditions are not compatible with prevailing circumstances. Hospitals are no longer able to ensure their supplies because they are indebted to public pharmaceutical enterprises. The acquisition of drugs from the private sector is on the other hand practically impossible. Hospitals, unable to pay cash or to negotiate prices, are in a deadlock.
- The whole system of management of drug supplies could be totally reviewed. In this case, real possibilities for improvement can be implemented. The establishment of a central pharmacy for hospitals seems to be one adequate solution. This solution, already implemented in several countries, is the primary demand made by hospital doctors and hospital pharmacy managers. However, the delays in the training of hospital and pharmacy management constitute serious obstacles to the proposed solution.

The survey of a few establishments showed that the issue of prices cannot be dissociated from the issue of availability. They are the two sides of the same coin: that of the allocation of resources according to clearly identified needs. Interviews with the officials concerned have shown that the issue of prices is secondary. With the same level of resources, hospitals can be significantly better supplied. Reforming in depth the management of hospitals is therefore a prerequisite to the control of prices and drug expenditures. The issue of recovering at least part of drug expenditures will be related to the reforms that are under consideration. The complexity of this issue requires coordination with the economic authorities, the Social Security and the social partners.

9.3 THE BUDGETARY EQUILIBRIUM OF SOCIAL SECURITY

It was previously mentioned that the rate of social security coverage of the Algerian population is very high compared to other countries with a comparable level of development.

Until the mid-80s, Social Security faced no serious problem in reimbursing drug expenses. Despite high rates of growth of drug consumption, low prices made reimbursements possible without jeopardizing the financial equilibrium of the institution. In fact, some members of the middle classes and senior executives did not even ask to be reimbursed for their medical expenses.

This situation of high price stability and relative financial ease seems to be one of the causes of the absence of considerations for controlling drug expenses. Being unaccountable, the Social Security sticks to a single rate of reimbursement.

Starting in 1988, Social Security expenditures in relation to the reimbursement of drug costs increased rapidly.

EXHIBIT 9-2
EVOLUTION OF REIMBURSEMENTS OF DRUG EXPENDITURES
BY THE "CANS" BETWEEN 1988 AND 1993
(in millions of AD)

1988	1989	1990	1991	1992	1993
507	717	940	1,342	2,200*	3,000*

* Estimates
Source: Ministry of Health
CANS: Caisse Nationale d'Assurances Sociales (National Social Insurance Fund)

The increases in drug prices and the maintaining of prescription habits have prevented the Social Security from meeting all reimbursement requests. The entire system of protection that is based on a management system which ignores costs is collapsing.

9.4 THE REVENUES OF DRUG SELLERS (WHOLESALERS, PUBLIC AND PRIVATE PHARMACIES, IMPORTERS)

No data on sales trends by drug sellers has been published to date. Therefore, only approximations can be put forward on the basis of some indicators:

- *The dynamism of the private retail distribution function.* The very rapid expansion of the pharmacy sector is due to two simultaneous movements. The first is the reduction of job opportunities for qualified pharmacists in the public sector. The relative overemployment in public distribution enterprises and the stagnation in pharmaceutical production, constitute obstacles to the recruitment of new graduates in pharmacy. The second is the attractiveness of the purely commercial function. The tremendous gaps in income between a waged pharmacist and a pharmacy owner explain the lack of interest in the few work opportunities that are offered by production and distribution enterprises.
- *The rapid multiplication of the number of wholesalers.* The rapid expansion of this activity is an indicator of the attractiveness of the selling of drugs to commercial capital.

These elements relative to the dynamism of the private sector are supported by data on commercial profits. While prices have increased in the order of 600 to 1000 percent, profit margins have remained unchanged. These are 20 percent for the wholesale margin and 40 percent for the retail margin. Sales per pharmacy have probably decreased because of the multiplication of sales points. The significant increase in prices has nevertheless largely compensated for the decrease in the volume of sales.

According to some pharmacy managers, the sales figure of a pharmacy located in an urban area may range between 600 and 900 million AD. The pharmacists who agreed to answer the question in relation to the change in their sales volume between 1988 and 1992 estimate that their sales increase and their average profit is of the order of 100 percent.

These are only summary indications that deserve to be further studied. But all the information that was gathered indicates that the distribution of drugs is a very lucrative activity.

10.0 THE PROSPECTS FOR A SOLUTION

Since the beginning of 1992, a debate has been engaged about the issue of drug prices. This debate, however, lacks clarity. Health authorities, the Ministry of Economy, importing enterprises, and health professionals have developed their own agenda. Proposals for solutions abound, but some fundamental questions remain unaddressed.

The first difficulty stems from the fact that economic agents in the drug sector have different, if not contradictory, interests.

The second difficulty stems from the liberalization of the pharmaceutical sector. Although the principle of applying market rules to the sector is accepted by most concerned agents (unanimity on the issue is not prevalent, though), the authorities are still unable to conceptualize efficient regulatory measures for prices.

Adjustment measures need to be applied at three different levels:

- The control of import prices
- Action on the structure of prices and profit margins
- The restructuring of reimbursement modes

These propositions are relatively coherent, but questions as to how they will be implemented and the prerequisites for their effectiveness remain unanswered. These questions will be addressed in the general conclusion of the present study.

10.1 THE CONTROL OF IMPORT PRICES

The results of the survey have revealed very big price disparities among suppliers, regions, and products. This survey also revealed that price increases can not be explained solely by currency devaluations. Important factors behind price increases are the nature of the products that are bought and the conditions of negotiation with suppliers. How are these problems viewed and what are the solutions?

Interviews with professionals in the pharmaceutical sector suggest the following elements:

- The first factor behind price increases is the almost systematic use of brand names. The intervention of the private sector in the importation function and the lines of credit imposed on importers have led to the systematic purchase of brand names to the detriment of generic products.

- The second factor is related to contract procedures. Procedures of mutual agreement have replaced procedures of tenders that used to induce competition among several international suppliers. In the present situation of the currency (non-convertibility), private enterprises are naturally inclined to purchase the most expensive drugs. This is compounded by the fact that the most important importer simultaneously represents the interests of big pharmaceutical companies. Public enterprises also develop dealership contracts with big drug companies.

The systematic purchase of the most expensive brands instead of generics is therefore the first factor behind price increases. The example of one product is significant. The public price of the Tagamet is 570 AD. Its generic equivalent, Ranitidine, is 79 AD. The difference is important. All equivalent drugs do not vary that much in prices, but the analysis of the Algerian drug market shows that a large part of drug demand is no longer under patent. Therefore, substitution possibilities exist.

Some measures of intervention are proposed:

- The first is the establishment of a nomenclature of vital drugs that meet most widespread and treated therapeutic needs in Algeria. This nomenclature must be accompanied by a list of the "main generic products that can be marketed in the country and the international prices of which are lower than those of brand names." It should be noted that this proposal takes into account both economic considerations and priority health needs.
- The second means for reducing costs in foreign currencies is "the reorganization of the conditions and modalities of importation". This proposal aims at reinstituting the procedure of tenders. It further aims to put an end to the separate intervention of the three public enterprise PHARMS. A "pool, formed by senior executives in the three PHARMS, will be responsible for centralizing national needs, applying a coherent procedure of negotiation and importation and for monitoring compliance with scientific and technical norms and with prevailing rules." This second proposition is not really new. The restructuring of the previous ACP into three PHARMS was accompanied by the establishment of a common body which had the responsibility to better negotiate imports. This common body has never effectively operated. This proposal also brings confusion to the missions of these enterprises. The duties of a national laboratory for quality control should be delegated to these enterprises. Finally, the issue of the intervention of the private sector has been completely overlooked. Does that imply that the general principle of the liberalization of the pharmaceutical sector is being reassessed? This question raises the issue of the coherence of the advocated measures with respect to the realities of the pharmaceutical market.

10.2 THE ACTION ON THE STRUCTURE OF PRICES AND THE REORGANIZATION OF THE SYSTEM OF PROFIT MARGINS

10.2.1 The Elements of the Structure of Prices

The first action to be undertaken is on the CIF prices. The item "freight and insurance" may be overcharged by importers. The following results have emerged from an evaluation undertaken by the Ministry of Economy:

Items	Calculated rates	Ruling rates
Freight	3.0%	10.0%
Insurance	0.3%	0.5%

Based on these data, the rates that would be incorporated in the prices are 3 percent for freight and 0.3 percent for insurance. The CIF price is also calculated according to the official exchange rate on the day products cross the borders.

The other items are custom duties and the institution of a fee for standardizing transportation charges. Thus, drugs would be exempt from custom duties. A 2 percent fee, if applied on the CIF price, would amortize the excess charges for supplying remote places, particularly southern areas.

10.2.2 The Reorganization of Profit Margins

The system of relative profit margins is an important factor in the aggravation of price increases. Price increases following devaluations have been strongly pronounced by the current system of commercial profit margins. It also reinforces the tendency to use the most expensive products since profit is calculated relatively to the purchase price.

The system that is proposed is fairly complex. It is based on:

- The *"definition of price segments according to a logic related to the structure of total sales"*
- The definition of a "scale of margins" inversely proportional to the price scale.

According to this logic, the least expensive products will carry the largest margin. This practice will curb the systematic use of expensive drugs and will ensure access to drugs to low-income groups. A reorientation of the import policy of enterprises toward least expensive products, namely generics, is also expected.

Several variations are proposed in order to define the scale of margins. It is useful to present at least one of the proposals, without going into much detail.

EXHIBIT 10-1
EXAMPLE OF PROFIT MARGIN RANGES ACCORDING TO PRICE RANGES

Price ranges	Wholesale margins %	Retail margins	
		Variant 1 %	Variant 2 %
Up to 30 AD	25	45.0	50
From more than 30 AD to 70 AD	20	35.0	45
From more than 70 Ad to 100 AD	15	30.0	35
More than 100 AD	12	25.0	30
Average margins	16	34.5	41

Other proposals extend to seven price ranges.

All proposals are supposed to lead to a fall in public prices without adversely affecting the activity of wholesalers and retailers.

The simulations that were run to assess the impact of the various alternatives on the activity of wholesalers, retailers, and consumers are based on the situation of the ENAPHARM at the wholesale level and a pharmacy with a medium level of activity (annual sales of 2.5 million of AD).

It is impossible to judge the relevance of this system insofar as it has not been tested. Its purpose is to reconcile the interests of consumers (accessibility), those of the government (reducing the foreign currency bill), and those of the distributors (maintaining a certain threshold of profitability). Some comments need to be made, however, on the feasibility of the system.

The basis on which the simulations were carried out cannot be guaranteed to depict market realities with reliability. The development of a system based on a scale of margins, which in turn are based on a price range, supposes a good knowledge of the situation. The price data gathered by this study show that prices behave irrationally. The same product can be found in several of the price ranges that are proposed.

The second comment relates to the general conditions of market organization. This system presupposes a stable situation which is characterized by uniform prices and supply policies. As already shown, that is far from being the case. Finally, pharmacists responding to our enquiries believe that the system is too complex, even impractical.

This system also supposes that the other determining factors (import policy, choice of products, suppliers, etc.) have been completely modified. It should also be noted that the effect of prices on consumption and prescription habits is of little impact. Many pharmacists state that consumers often prefer to buy the prescribed brand product rather than accept an equivalent, albeit much cheaper product. Consumption habits are deeply embedded. This factor is a serious obstacle to the objective assigned to this system.

10.3 THE REFORM OF THE SYSTEM OF REIMBURSEMENT OF DRUG EXPENDITURES

Projects for the reform of the system of reimbursement are numerous. In addition to proposals to adjust the payment rates, the institution of a system of direct payment by the insurer has been advocated. In the early 90s, it was noticed that certain categories of the population, though insured, were unable to pay the full cost of their prescriptions. In the current system, consumers directly pay their prescription in full and then submit it to the Social Security for reimbursement.

The various proposals agree on a system of reimbursement that depends on the degree of priority of the product. Four categories of drugs are distinguished:

- Drugs that are reimbursed at 100 percent. This category concerns expensive drugs that are prescribed for chronic ailments. Reimbursement is provided to the insured who are financially destitute;
- Drugs that are reimbursed at 80 percent: essential drugs also fall in this category;
- Drugs that are reimbursed at 50 percent: these are so-called "useful" drugs;
- Drugs that are nonrefundable. This is the category of the so-called "comfort" drugs.

A small study has been undertaken to estimate the share of each of these categories. It was based on products submitted for reimbursement to an agency situated in Saida. The reference period is the month of October 1991.

The distribution of the products submitted for reimbursement according to the above rates is as follows:

EXHIBIT 10-2
IMPACT OF THE PROJECTED SYSTEM OF REIMBURSEMENT (IN TERMS OF COSTS)
Basis: products submitted for reimbursement in a "CANS" agency in October 1991

100%	80%	50%	0%	Total
48%	11%	13%	28%	100

Source: "CANS" (National Social Insurance Fund)

The implementation of the system would lead to a decrease in the amount of reimbursements in the order of 10 percent for drugs at the unique 80 percent or lower rate. The impact on the budgetary stability of Social Security would have been little in 1991, but the years 1992 and 1993 were characterized by significant price increases. Unfortunately, the impact of this system could be perverse if it encourages over-consumption of the expensive drugs that are reimbursed at 100 percent.

Another proposal put forward by the Ministry of Economy consists in taking the price factor into account. Thus, reimbursement would have a ceiling that is based on the price of the least expensive equivalent. This reimbursement method has the advantage of taking into account price disparities in the market and of discouraging the prescription of expensive products.

10.4 CONCLUSION

All the elements that were considered in this second part can be summarized as follows:

1. ***Sharp increases and large disparities are noted among prices according to product, distributor, and region.***

2. ***Price increases are not the result of currency devaluations alone.*** They are related to the decrease in the negotiation power of public enterprises for distribution and to the import of expensive products by the private sector.

3. ***Import prices are the starting point for the increase in public prices.*** Increases due to the deterioration of buying conditions in foreign markets are compounded by the **system of relative profit margins.**

4. ***The proposals that are put forward to reorganize the sector and to reduce public prices are mainly of a regulatory nature.*** Few regulatory economic instruments are considered.

The issue of price control is difficult indeed. It is all the more so in planned economies which are in rapid transition toward a market economy. **The problems that are observed are partly attributable to the uncontrolled nature of this transition.** They are also attributable to the hesitations of government authorities and to their inability to define effective regulatory instruments. Reform projects, such as the creation of a central pharmacy for hospitals, the implementation of an adjustable reimbursement system or the restructuring of the system of profit margins have been detailed for some time. However, they have never been implemented.

The central conclusion is that price increases can be reduced considerably without jeopardizing the strategic axes of economic reforms.

The issue of the level of drug expenditures cannot be reduced to the sole issue of price levels. Other parameters that are equally important combine to make the increase in drug expenditures uncontrollable.

That is why the issue of drug prices should be considered in a larger context. First, in the context of a pharmaceutical policy and second in the context of the relationship between the latter and health policy.

Finally, the issue of the role of the public sector in the field of drugs is more than ever a topical issue. Caught in an ambiguous status of having to be profitable while assuming a mission of public service, it has succeeded in neither.

The issue of the status of drugs in the transitional phase toward a market economy raises numerous questions and entails many risks. How to reduce the risks of instability and with what means? These are the issues that will now be addressed.

11.0 GENERAL CONCLUSIONS

11.1 INTRODUCTION

Some of the problems that were encountered during the survey relate to both availability and prices of drugs. The complexity of these issues makes it necessary to enlarge the context of the analysis.

Price intervention, especially on import prices, is crucial. This must nevertheless take into account the realities of the international drug market and its constraints. The size of the Algerian market is an asset. How should this asset be used in order to avoid the return to a monopolistic organization, which proved its effectiveness but its drawbacks as well?

The issue of drug availability cannot be dissociated from the growth in demand and the factors influencing pharmaceutical consumption. The training of prescribing doctors and the adequacy of pharmaco-therapeutic information are important means for educating consumers about the rational use of drugs. To pose the problem as a problem of availability at every moment and every place is to avoid the issue. Financial constraints of both the State and the consumer are circumvented with difficulty.

These issues will be treated in two stages:

The first is dedicated to the examination of the problems of drug prescriptions and those of the pharmacopoeia in relation to prices and availability.

The second will deal with the conditions of complementarity between the public and private sectors within the pharmaceutical sector. The conditions of practice transformed a pharmacist into an ordinary shopkeeper. What are the means to remedy the situation? The organization of the market and guaranteeing supplies are some of these means. What must the role of the State, and more particularly health authorities, be in this transitional period?

11.2 WHAT DRUGS? WHAT PRESCRIPTION?

11.2.1 The Pharmacopoeia

The pharmacopoeia, or drug nomenclature, regularly comes back as a topical issue in Algeria. This section discusses its complexity and importance.

The first attempt to implement a nomenclature of authorized drugs dates back to 1978. A "nomenclature commission," comprised of delegates from the Ministry of Health, established a list of 1,200 brands.

Following the serious stock disruptions during the summer of 1979, this nomenclature commission was dissolved. Poorly informed and unfamiliar with the generic terminology, prescribers reacted unfavorably and followed the big laboratories' lead in their opposition to this nomenclature. To meet the problems of shortages, and to put an end to the crisis, orders were urgently placed to suppliers.

After the increase in oil prices in 1980, and with the improvement in external revenues, 630 products were added to the nomenclature established in 1978. Links between problems of shortages, the nomenclature, and the level of external resources were thus established. The position of the authorities about this issue is clear. The problem is not really to rationalize drug usage and expenditure. It is to adapt to the financial conjecture, whenever need be.

Between 1980 and 1985, several "nomenclature commissions" succeeded each other. By the late 80s, the official nomenclature comprised 1,400 products.

The issue of nomenclature came back to the agenda in the beginning of 1991 with the aggravation of the economic situation and the increase in shortages. However, it was only in December 1992 that a nomenclature comprising 900 products was made official. This nomenclature distinguishes between three categories of drugs: essential, useful 1, useful 2. Most of the drugs fall under the first category. What is also remarkable is the fact that almost all products are required to be available in both pharmacies and hospitals. In fact, this national nomenclature seems to have been conceived outside the planning for a central pharmacy for hospitals.

This raises the issue of how economic constraints are managed and how decision-makers perceive reality in the pharmaceutical sector. Those who established this nomenclature do not seem to have taken into account the functioning of the drug market.

Opposition to a restrictive nomenclature are weakening. Whereas general practitioners (particularly private) favor "freedom of prescription", hospital doctors favor a more realistic management of financial constraints that are affecting the supply policy. Pharmacists adopt the same position since many marketed drugs have a very low turnover or have a doubtful utility. Affected by the multiplication and the frequency of shortages, they are increasingly attracted to the idea of a rigorous selection of drugs, the availability of which should be maintained.

During the survey, the problem was clearly raised. Less than 300 products would be sufficient to ensure the normal functioning of a pharmacy, i.e.to ensure the availability of drugs that represent more than 80 percent of sales. A survey led by the INSP (National Institute of Public Health) of 4,000 doctors scattered all over the country confirms this assessment. A partial exploration of the data gathered by this survey has revealed that the number of the most widely prescribed drugs does not exceed 100.

A reduction in the number of drugs found in the nomenclature would largely improve the situation in terms of availability. For an equal amount of foreign currency resources, the availability of drugs with a high turnover and of known therapeutic interest would noticeably improve. Concurrently, the conditions for the management of supply and stocking functions would be facilitated. The same applies for health authorities who would be in a better position to monitor the market.

At the hospital level, the same advantages can be expected. Strategic drugs rarely surpass 100 for teaching hospitals and the number is much less in district hospitals. The ENOPHARM has requested from all hospitals in the Western areas to establish a list of drugs that they believe are sufficient for the operation of their services. The most important teaching hospital, that of Oran, has provided a list of 110 drugs.

In the establishment of these lists, hospital pharmacies have surely taken into account the deteriorating environment. The frequent and severe stock disruptions have influenced the establishment of the shortest possible list. The root problem lies in the quantification and the knowledge of needs. Some managers have underlined this major deficiency. It is even more compounded by the lack of coordination between importing enterprises and distributors, whether in pharmacies or in health groups.

In 1993, despite the serious crisis faced by the pharmaceutical sector, the issue of the nomenclature of drugs has not yet been satisfactorily answered. Given market disorders, especially at the level of distribution networks, a continuation of the observed phenomena in terms of both availability and price increases and discrepancies, are to be expected.

11.2.2 Information, Training and Prescriptions

Solutions to the problems of drug information, training and prescriptions are prerequisites for an improvement in the situation. In the case of drugs, and in the context of an economy that is 90 percent dependent on imports, the free operation of market rules can only aggravate the problems of availability and cost.

In all countries, particularly in industrialized countries with a market economy, the State strongly interferes in the regulation of the market. The instruments of intervention are numerous and often effective.

In Algeria, State intervention took the extreme of establishment of a public monopoly of the pharmaceutical sector. The other issues such as information, control, and prescribing habits remained in the background. These problems, which were identified a long time ago, are still questions of the day. These issue are constantly mentioned during interviews with various agents in the import, wholesale, and retail distribution functions. This is, undoubtedly, a first assessment of the situation since responsibilities are not clearly defined. Various parties accuse each other without specifying the exact origin of the problems. Doctors accuse enterprises of importing and distributing without taking needs into account; distributors complain of the total absence of relations with prescribers. The urgency for public authorities to take charge of these issues is evident.

Information problems

They are manifested at several levels, the most important being:

- *Health authorities*

  Health authorities bear a large share of the responsibilities for lack of drug information. Since the early 90s, they have been requested to intervene on availability problems. The problems are essentially evident through the reduction in imports, the lack of coordination among public enterprises, and the intervention of the private sector. The lack of data on market conditions in all the reports that were consulted is striking. The Directorate of Pharmaceuticals is the institution that is assigned the control and follow-up on the situation. But these tasks are rarely accomplished. Information channels on the conditions of foreign supply, stocks of products, and their availability in the various areas and distribution networks, are nonexistent. It is practically impossible to provide a periodical assessment of supply conditions. One of the first priorities is, therefore, to establish an operational Directorate for Pharmaceuticals, together with flexible and efficient information networks.

  The second deficiency, and not the least, is relative to the **identification and evaluation of priority needs.** In the last listing of drug nomenclature, a column was reserved for the quantification of the needs for each listed drug. This column is practically empty. This fundamental problem can not be rapidly solved. However, very little effort has been done in this direction.

- *Import and wholesale distribution enterprises*

  Information needs at the level of enterprises are essentially concerned with demand evaluation. Public enterprises, who have managed supplies for two decades, were never able to develop an approach based on needs. Used to working according to individual brand names rather than therapeutic class, they are now unable to provide relatively precise information on demand, and even less on priority needs. The absence of demand data is explicitly recognized in an official document.

  The difficulties of ensuring a regular supply of drugs and the inability to control the situation are essentially due to this deficiency. Enterprises apply a simple annual growth rate to past consumption levels without questioning the dynamics of the market or the factors affecting demand. Having obtained authorizations for total imports (foreign currency budget) from the central administration, they are not really concerned with the reality of needs. The management of stocks by objectives according to the parameters that affect demand is nonexistent. Problems of shortages addressed in this study must be related to these deficiencies. A "crisis cell" established by public authorities in 1992 to deal with the problems of drug shortages came up with the following assessment concerning the management of stocks by the PHARMS: the management of stocks and the stocking process are not related to the level of demand. Some products were mentioned as illustrations:

Haloperidol	481 months of stock
Ethambutol	5 years of stock
Pyrazinamide	3 years of stock

At the time of this assessment, some drugs of prime necessity were not available.

Private importers, the APL in fact, intervene in a situation characterized by numerous and frequent shortages. Partner laboratories are familiar with the Algerian market. The commercial strategy of the APL is simple: it consists of rapidly adapting itself to demand. The flexibility in the management of this enterprise and the near monopoly that it shares with the private sector make it an agent of weight in the Algerian market. In cases of relative shortages, the APL does not have to develop a prospective strategy based on needs. It only has to satisfy the established prescription and consumption profiles. That is why it includes in its list of imports products that have a high turnover in the pharmacy distribution network. Well-known groups of drugs and brand names are the basis of its commercial strategy.

Prescribers

Prescribers have a large influence on the evolution of the situation.

Most prescribers are used to French drugs. These prescribing habits have been reinforced by two other factors.

- The first one is the intervention of the private sector. Brand name drugs have come back strongly in the domestic market.
- The second one is the fact that enterprises have to stay within the lines of credit allocated to Algeria. For instance, 10 percent of the lines of credit allocated to Algeria by France are reserved for drugs. The examination of contracts of a big Algerian public enterprise over the period 1988-1990 reveals the preponderance of big French drug companies.

Prescribers, particularly private general practitioners, prescribe drugs that are known to them. A private wholesaler (who is simultaneously the owner of a pharmacy) stated during an interview: "*One of the main causes of shortages is the lack of information to prescribers about available drugs. Most are familiar with less than 100 drugs. Out of these 100 drugs, around 80 percent are French or from multinational firms based in France.*"

Weaknesses in the training of doctors in pharmacology are also related to this problem. Prescription habits show not only the inadequacy of information available to prescribers, but also and especially their training deficiencies in the pharmaco-therapeutic field.

Prescription habits

K. Besseghir and B. Haferessas (1982) emphasized the relevance of prescription habits in explaining the demand for and the consumption of pharmaceuticals. They noted that *"private general practitioners, in particular, often substitute placebos for a long and elaborate conversation with the patient"*. They added: *"Doctors often prescribe a placebo without being aware of the fact"*. The deficiencies in basic training and the total absence of concern for costs explain the erroneous and abusive nature of prescriptions. The authors of the study estimated the average annual amount of prescriptions per doctor, in 1982, to AD 300,000.

A more recent study focusing on this same issue reached two essential conclusions:

- The first is related to over prescription by private doctors. While the latter represent 16 percent of all prescribers in the late 80s, their prescriptions represent 59 percent of prescriptions.

EXHIBIT 11-1
DISTRIBUTION OF PRESCRIPTIONS BY TYPE OF PRESCRIBER
(the comrnune of Constantine, 1988-1990)

Private general practitioners	43.32%
Public health general practitioner	20.76%
Private specialists	20.63%
Teaching hospitals	12.68%
Others	2.61%

Source: L. Nezzal. The consumption of drugs in Algeria, an attempted approach. The concrete case of the health districts in Constantine and Setif. A doctoral thesis in medicine. Constantine, 1992.

Doctors, especially private doctors, write long prescriptions. Paradoxically, however, the range of prescribed drugs is very limited. Thirty products represent 50 percent of the prescribed products.

EXHIBIT 11-2
MOST COMMONLY PRESCRIBED DRUGS IN THE COMMUNITY OF CONSTANTINE

Generic name	Year of discovery
Calcium	1850
Paracetamol	1890
Acetylsalicylic acid	1895
"Biocidan"	1916
Vitamin C	1928
Penicillin	1929
Alpha amylase	1930
Framycetine	1949
Oxytetracycline	1950
Spyramicine	1954
Hexetidine	1955
Sulpiride	1955
(Niflumic acid)	1963
Carbocisteine	–

Source: L. Nezzal, op.cit.

The data cited above support the hypothesis that drug shortages cannot be reduced by increasing imports alone. This is a crucial factor that health authorities consider of secondary importance.

11.3 THE ECONOMIC REGULATION OF THE DRUG MARKET: THE ROLES OF THE PUBLIC AND PRIVATE SECTORS

All the arguments developed in the first two parts of this study emphasized two main facts:

- **The first fact** concerns the reality, the magnitude, and the causes of the shortage of drugs. The proposed hypothesis, which is also confirmed by empirical observations, is that shortages are primarily the consequence of disorders in the distribution circuits. The opening of the pharmaceutical sector to private capital did not eliminate or reduce management deficiencies in a monopolistic context.

  Causes are essentially structural. The Algerian economy is a rent economy. It therefore experiences the same types of dysfunctionings as in other planned economies. The dysfunctionings that are observed should also be related to the inadequacies at the level of health authorities. The fundamental objectives and functions in terms of drugs are not ensured.

  Disruptions stem also from an inadequate consumption model. The expansion of the distribution network is considered as a means to ensure better access and greater availability of drugs. In this case, it has an opposite effect.

Hospitals, which have to provide basic health care, are the most affected by supply disruptions. Even specialized hospitals which use, in principle, a limited range of products, are much affected in their operation. The credibility of the system of care is seriously affected.

- **The second fact** concerns the factors behind price increases. As already mentioned, monetary devaluations are not the only causes.

The factors behind price increases and disparities that have been identified are:

- Increases in import prices. This increase is partly related to the fact that private importers focus on the most expensive brands. Without judging the intention of these private importers, one should state the hypothesis that all the conditions exist for the development of such behavior. The lack of competition is in itself a favorable condition for high prices.
- A deterioration of the negotiating capacities of public enterprises. Price increases and disparities are not observed in the private sector alone but at the level of the PHARMS as well.
- The system of relative commercial margins. Whereas domestic prices have increased six-fold, margin rates have remained unchanged. The pharmaceutical sector has become speculative.

The answers proposed by both economic authorities and the health administration favor regulatory instruments. The restructuring of the system of margins as well as that of the reimbursement rates by the Social Security does not guarantee a reduction in shortages or a decrease in import prices. Importers as well as retail distributors can adapt themselves to a more stringent system given the current supply and demand conditions and given the nonconvertibility of the currency. The nomenclature, which still contains a very large number of authorized drugs, offers numerous opportunities for importers and retail distributors to adapt. One of these opportunities, and not the least, is to gear their import policy toward effective demand, i.e., the demand of high and middle incomes.

The following comments are of an exploratory nature. They are in the context of the problems of the transition toward a market economy. The hypothesis here is that instruments of a regulatory nature are not incompatible with a market economy. The starting point of this hypothesis is the following: in the current conditions, the liberalization of the pharmaceutical sector has not eliminated monopoly situations. Four agents, three public and one private, account for 97.1 percent of imports. These four enterprises share the market among themselves. If the principle of liberalizing the pharmaceutical sector is accepted, the following questions arise:

11.4 WHAT IS THE ROLE OF THE STATE AS A REGULATORY AGENT? HOW AND WHAT ARE THE MEANS TO APPLY THIS REGULATION?

- **The opening of the pharmaceutical sector to private capital.** The prerequisites for granting importing licenses to an applicant are little known. It is assumed that easing conditions of access to this sector leads toward an effective competition among agents. The control of this activity would be much more effective and less perverse than under the current administrative rules. Effects will not be immediate but can be expected in a relatively short period of time. This competition at the internal level can find its roots on the external level. Some large drug companies have currently a near monopoly of the Algerian market. The procedures for access to the sector and the difficult conditions of public enterprises reinforces the position of these drug companies. The multiplication of importing enterprises can contribute to the break-up of these monopolies. The size of the Algerian market is, from this point of view, a first class asset.
- **The redefinition of the status and the missions of public pharmaceutical enterprises.** Despite their autonomy, public enterprises remain, explicitly or implicitly, under the tutelage of different authorities (health, finance...). They currently offer neither the advantages of the private sector nor those of public service enterprises. Without providing a final answer to this question of utmost importance concerning the role of enterprises in the pharmaceutical field, the following observations are made.
- The existence of the three PHARMS in their current status is not justified on economic efficiency grounds. The argument, which is simple, has been developed several times. They are regional wholesale distributors but are simultaneously entitled to import. Their bargaining power is eroded. Concurrently, the management of stocks and that of distribution at the internal level is inefficient. Their fields of operation are confined to geographical zones that are administratively determined. Private wholesalers and importers enjoy total flexibility in the organization of their distribution circuits.
- These enterprises have nevertheless a very important asset: a developed retail distribution network and an important stocking infrastructure. Stocking infrastructures and means of transportation are currently under-utilized.
- At the level of human resources, highly qualified and experienced executives in the domain of international drug trade are lacking. Available skills are dispersed. The gathering of these skills within a single structure, **a public central purchasing unit,** can contribute to improve their efficiency.

To take advantage of these assets, and hence reduce the inconveniences of the current organization of the public sector, a fundamental restructuring is necessary. Rather than going back to the formula of the ex CAP, which used to manage the entire branch of activity, it seems more realistic to first constitute a single importation unit. The conditions for the reorganization of the wholesale function are more of a technical nature, depending on the geographical density of the network, on urbanization, etc.

In the face of the serious crisis in the pharmaceutical public sector, two types of proposals are put forward concerning the future of enterprises:

- One consists in the creation of a public holding pharmaceutical entity which would embrace practically all the segments of the activity. This very ambitious scheme is in fact a corrected version of the ex CAP. Moreover, it is designed according to the sole rules of the market and profitability.
- The other consists of an intermediary formula. Without putting an end to the existence of the PHARMS, it is proposed that they engage in group purchases essentially through international tenders. Undoubtedly, this solution is a simple way of addressing the current problems of shattered responsibilities and bargaining power of enterprises vis-a-vis pharmaceutical companies.

In relation to all the alternatives that have been mentioned above, it should be noted that:

- The fundamental question concerning the status of public pharmaceutical enterprises in a market economy is not directly addressed. Ambiguities remain. These ambiguities are even more serious since up to 80 percent of the Algerian pharmaceutical market is supplied by imports.
- The relations between the public and the private sectors in this particular field remain undefined. Coexisting with a private sector driven by profitability rules, the public sector is simultaneously dependent on its status of guarantor of collective interests.

This impasse can be overcome by a clarification of the rules of the game. There are two positions in this respect:

- One advocates complementarity between both sectors. The conditions and the object of this complementarity are not defined though. Is it a sharing of markets, of functions?
- The other advocates competitiveness between both sectors in the context of the strict rules of profitability and economic efficiency.

The hypothesis that is advanced here is that the two sectors can be put in competition without mixing their modes of operation and their strategies.

In more precise words, the public sector can play a regulatory role provided its missions are clearly defined. **Purchasing and distributing strategic drugs should be its first mission. Buying the cheapest possible drugs, and adopting an efficient distribution policy should be its second mission.**

The creation of a **Central Pharmacy for Hospitals** is a direct consequence of this clarification of the role of the public sector.

These two propositions, which also include total opening up to private capital, may be accompanied by measures of a regulatory nature such as:

- The adoption and the application of a drug nomenclature based on priority needs and financial constraints of the country;
- The restructuring of the current system of profits, which made the drug distribution activity a purely lucrative one;

- The rapid set-up of a system of reimbursement of drug expenditures based on the lowest prices. This flexible system has the advantage of being rapidly operational and of guaranteeing public awareness of drug costs;
- The reinforcement of regulations concerning the activity of drug distribution at both the wholesale and retail levels;
- The rapid development of an information system aimed at prescribers and consumers.

All these measures may seem complex in their design and implementation. They certainly are. They have, however, the advantage of clarifying the rules of the game and of considerably reducing uncertainty.

At the end of this exploratory study, we conclude that the problems of prices and availability, in the particular context of Algeria, are related to the central issues of ***the organization of the functions of imports and distribution.*** The clarification of the role of the public sector may constitute an effective means of dampening the effects of the structural adjustment program.

APPENDIX

EXHIBIT A-1
BASIC INDICATORS IN THE MAGHREB
1980-1991

COUNTRY	POPULATION (millions of inhabitants, 1991)	GNP/CAPITA (in dollars, 1991)	GNP/CAPITA (average annual growth rate %)	ANNUAL INFLATION (average 1980-1991)
Tunisia	8.2	1,500	1.1	7.3
Algeria	25.7	1,980	-0.7	10.1
Morocco	25.7	1,030	1.6	7.1

Source: Based on World Bank data, 1993.

EXHIBIT A-2
EXTERNAL DEBT IN THE MAGHREB

COUNTRY	EXTERNAL DEBT (in million of US dollars, 1991)	TOTAL EXTERNAL DEBT (in % of GNP, 1991)	EXTERNAL DEBT (as a share of exports of goods and services)	TOTAL DEBT SERVICE (as a share of exports of goods and services)
Tunisia	8,295	80.0	137.2	22.7
Algeria	28,636	70.4	214.8	73.7
Morocco	21,219	66.2	257.5	27.8

Source: Based on data from the World Bank, 1993.

EXHIBIT A-3
HEALTH INDICATORS IN THE MAGHREB

	Tunisia		Algeria		Morocco	
	1960	**1990**	**1960**	**1990**	**1960**	**1990**
Life Expectancy at birth	41	67	43	65	45	62
Mortality Rate in the womb	-	40	-	40	-	45
Juvenile Mortality Rate	245	45	242	-	215	71
(TIA per 100,000 inhabitants)	-	55	-	53	-	125

Source: Derived from data from the World Bank, 1993.

EXHIBIT A-4
HEALTH EXPENDITURES IN THE MAGHREB
1990

COUNTRY	D.T.S. (in millions of US dollars, 1990)	D.T.S. (per capita in US dollars)	International aid as a share of D.T.S., 1990
Tunisia	614	76	30
Algeria	4,159	166	1
Morocco	661	26	30

Source: The World Bank; Dollars at official exchange rate D.T.S.: Total health expenditures.

EXHIBIT A-5
HEALTH EXPENDITURES AND GDP IN THE MAGHREB, 1990

COUNTRY	HEALTH EXPENDITURES AS A PERCENT OF GDP	PUBLIC SECTOR	PRIVATE SECTOR
Tunisia	4.9	3.3	1.6
Algeria	7.0	5.4	1.6
Morocco	2.5	0.9	1.6

Source: Derived from data from the World Bank, 1993.

EXHIBIT A-6
HEALTH SYSTEM RESOURCES IN THE MAGHREB, 1990

COUNTRY	NUMBER OF DOCTORS PER 1,000 INHABITANTS	PERSONNEL RATIO NURSE-DOCTOR	NUMBER OF BEDS PER 1,000 INHABITANTS
Tunisia	0.53	2.7	2.0
Algeria	0.26	4.7	2.6
Morocco	0.21	4.5	1.2

Source: Derived from data from the World Bank, 1993.

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