

**THE WORLD BANK**

**OIL SECTOR LIBERALISATION  
OF SMALL PETROLEUM MARKETS IN AFRICA  
- THE EXPERIENCE**

**CASE STUDIES: GHANA, KENYA, MALI, UGANDA**

**FINAL REPORT**

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## ABBREVIATIONS AND ACCRONYMS

BOE	Barrel of oil equivalent
BOST	Bulk Oil Storage and Transportation Co., (Ghana)
CTS	Competitive tendering system
FY	Fiscal year
HHI	Herfindahl-Hirschman Index
HSE	Health Safety Environment
ICB	International competitive bidding)
IMC	Industry managed costs
IPP	Import parity price
KPC	Kenya Petroleum Company
KPRL	Kenya Petroleum Refineries Limited
Ksh	Kenyan shillings
MOE	Ministry of Energy (Kenya)
MOF	Ministry of Finance (Kenya)
MT	Metric tons
NOCK	National Oil Company of Kenya
OMC	Oil marketing company
PMU	Petroleum Monitoring Unit (Kenya)
PDL	Petroleum development levy (Kenya)
PRC	Procurement and refining costs
TPA	Third Party Access

## TECHNICAL GLOSSARY

Herfindahl Hirschman Index (HHI): A measure of competitiveness of a market, which is derived by summing the squares of the market shares of all firms in the industry. For a virtual monopoly, that is a trader with 100 per cent of the market share, the HHI is 10,000 (or 1 if ratios instead of percentage points are used). A market is said to be unconcentrated or competitive if the HHI is not more than 1,000.

# 1. CRITERIA FOR AND STEPS TO LIBERALIZATION

## 1.1 Regulation of Petroleum Supply and Marketing

The operation of an oligopolistic industry such as petroleum supply and marketing is strongly influenced, positively and negatively by Government regulation. Policy instruments applied by Government for achieving their policy objectives range from *direct government intervention in the industry* to the light-handed *general regulation of private commercial activities*. Interventionist regulation is promoted by a notion of petroleum supply and marketing as a “strategic industry”, and by a belief in the need for direct price regulation of an oligopolistic industry<sup>1</sup>. Liberal regulation regards petroleum industry as an industry like any other, and prefers to combat oligopolistic market behavior through the use measures that make the industry structure more competitive and less concentrated<sup>2</sup>.

African Governments used to have a very interventionist role in the petroleum industry considering oil supply to be a matter of essential strategic interest for the country<sup>3</sup>. The IMF and the World Bank argued for a deregulation of the petroleum industry. They pointed out that state financed investments in refining were white elephants, and that the detailed regulation of prices and of procurement activities leads to micro-economic inefficiencies in the industry. Balance of payments support in the form of quick disbursing loans from the IMF and energy sector credit from IDA were made conditional on the liberalization of the oil industry.

According to the terms of reference, the objective of this case study is to draw conclusions “from the experiences of liberalization in smaller economies of (a) the criteria necessary for successful liberalization in the downstream petroleum industry and the steps that the country can take to help the liberalization to be successful, and (b) for those countries where total liberalization is premature but where some liberalization is appropriate, the recommended steps that can be taken to make the petroleum system as competitive as is useful in the circumstances”.

The study covers the experience of four countries, which were subject to short two to three days visits: Ghana, Kenya, Mali, Uganda; and desk studies of three countries: Senegal, Ethiopia and the Philippines. The first four countries were chosen for providing a broad specter of different modalities and for providing a sufficient length

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<sup>1</sup> *Market structure* may be of little significance in its own right, but is often held to be a useful predictor of market conduct and performance in terms of outputs, prices, profits, productive efficiency and dynamic progressiveness.

<sup>2</sup> Numerous measures of concentration have been proposed in the literature. The most common indicator is the Herfindahl-Hirschman index, which is derived by summing the squares of the market shares of all firms in the industry. For a virtual monopoly, that is a trader with 100 per cent of the market share, the HHI is 10,000 (or 1, if ratios instead of percentage points are used). A market is said to be unconcentrated or competitive if the HHI is not more than 1,000. The HHI is often considered together with information on the share of the largest firm, the number of firms with market shares of more than 10 percent, the joint market shares of the firms with shares exceeding 10 percent and whether small firms do or do not jointly account for more than 10 percent of the market.

<sup>3</sup> The *transport sector* is the largest consumer of petroleum products in Sub-Saharan Africa at about 60% of the total consumption; followed in descending order by *manufacturing, power industry, commercial establishments, household use and agriculture*.

of time for evaluating their reform experience. In other countries, such as Tanzania, the reforms were introduced too recently to permit any evaluation. The description of the Philippines is short and for reference purposes only, as the Philippines are not a small country.

## **1.2 Policy Objectives for Petroleum Supply and Marketing**

The comparison of regulatory options is made with reference to the Government policy objectives for petroleum supply. The regulation of the downstream petroleum industry was and is driven by four main objectives:

- 1) Strengthening national security of supply
- 2) Promotion of regional equity through nation-wide coverage of retail outlets
- 3) Consumer protection against monopolistic/oligopolistic malpractice <sup>4</sup>
- 4) Increasing efficiency in supply through achievement of economies of scale

## **1.3 Schools of Thought on the Regulation of the Downstream Petroleum Industry**

The views of the two schools of thought are summarized in sections 1.3.1 (state intervention) and 1.3.2 (liberalization).

### **1.3.1 The Arguments of the State Interventionist School**

Direct state intervention in the downstream petroleum industry in Africa takes place:

- (a) through state investments in the industry and
- (b) through detailed regulation of the commercial activities of the private oil marketing companies (OMC) that operate in the sector.

Retail prices were tightly controlled by the government in order to *protect consumers against oligopolistic price practices* <sup>5</sup>. Because there are few operators on the oil market, OMCs will follow each others' price movements very closely and react if price cutting by a competitor risks to affect their market share. Price leadership is, therefore, a frequent phenomenon in the petroleum retail market. Frequently, price approvals also led the Government to introduce price stabilization funds to cancel the price fluctuations originating from the international oil market.

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<sup>4</sup> A market structure is said to be *oligopolistic* if there are only a few sellers in the market with one or two major sellers controlling over a third of the market share. The remaining sellers may have the remaining two-thirds of the market, but on an individual basis each controls a relatively small market share. The smaller sellers individually do not have enough power to have a significant impact on market behavior affecting critical parameters like pricing, production or sales levels.

<sup>5</sup> An *oligopolistic pricing situation* exists in the petroleum marketing sector, when a couple of companies act as *price leaders* and set the prices, while the others adopt the same price after a certain time interval.

*Intervention by the state to promote the achievement of economies of scale* took two forms: (a) investment by state companies in basic infrastructure for the procurement, handling and storage of fuels, and (b) by imposing mandatory pooling of fuel purchases on the international market on the private OMCs. National planners believed that left to themselves, the private OMCs – normally national daughter companies of larger multinationals - would engage in atomistic behavior each investing in separate fuel receiving, handling and storage facilities and importing fuels in separate orders. The reason being that the OMCs are part of the international procurement and supply chain of their mother companies, and make preferential use of that chain. Since the national petroleum markets in African countries are small, the individual facilities would be too small to reach economies of scale, making the oil receiving, handling and storage operations economically inefficient. Since all OMCs on the national market engage in the same behavior, there is no competitive drive for cooperative investments as “surplus” investment costs can be passed on the consumer under the system of regulated prices<sup>6</sup>.

*Security of supply* motivations were another argument for founding national oil companies and for state financed investments in storage capacity. Setting up national refineries was believed to improve the security of supply by providing greater flexibility in procurement and to be a value-adding activity for the national economy.

State intervention to promote *regional equity* comprised direct investments in retail infrastructure in rural areas and/or use of regional price equalization transfers to maintain retail prices at the same level throughout the country. The intervention was founded on the observation that private OMCs concentrate their investments in retail infrastructure to the vicinity of the major urban demand centers.

### **1.3.2 The Arguments of the School for Sector Liberalization**

The highly interventionist role of the state in the downstream petroleum industry is increasingly criticized. Opponents argue that the policy objectives of Governments can be achieved more efficiently by making use of the self-correcting forces of a free commercial market and by replacing hitherto detailed regulation by framework- and incentive based regulation. The main arguments are the following.

*The detailed regulation of prices is an inefficient means for consumer protection.* By eliminating competition in retail prices, the consumer is given less choice and market operators have one promotion instrument less at their disposal. Detailed regulation of the individual components in the chain leads to micro-economic distortions<sup>7</sup>. Instead

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<sup>6</sup> Detailed price regulation in the petroleum industry is not individually cost-plus based as in classical “rate-of-return” regulation in the power industry, where the costs and revenues of each individual licensee are evaluated and approved. In the petroleum industry, prices are fixed for the industry as a whole. But the industry’s de facto investment costs in the supply chain are taken into account by the price regulating authority in establishing the price structure for individual products.

<sup>7</sup> A study made for the European Commission in 1988 by Birch & Krogboe: “La Promotion de la Butanisation dans les Pays du CILSS. Etude de Faisabilité” compared the official price structures for LPG in the CILSS countries. It pointed out a number of errors, which blocked the development of the LPG market. In some countries, the Government considered the wholesalers a “superfluous” link in the chain and allowed margins that were too small to make them interested in actively promoting LPG. In other countries, the Government understood the crucial role of wholesalers in launching promotion



of leaving it to the OMCs to negotiate the prices for the individual services along the supply chain with the relevant market operators, the prices for each individual element are fixed by government officials, albeit in consultation with the market operators. This reduces the potential for spontaneous micro-economic adjustments to new market conditions. The procurement market can be made more efficient by reforms that increase the intensity of competition. Replacing price controls by price monitoring and price information opens up for price competition to consumers. Reducing barriers to entry, e.g. by imposing Third Party Access (TPA) on owners of storage and handling infrastructure, will reduce the potential for oligopolistic pricing behavior. Problems that are detected can be handled through the instruments provided under the national anti-monopoly law.

*State intervention to promote economies of scale is not needed.* If economies of scale exist, the pressure of free market forces will force market operators to engage in collaborative arrangements. With price deregulation high-cost importers and operators will lose market shares, forcing such OMCs to become more competitive in procurement and in investment. If joint bulk procurement of products and crude oil is economically more efficient than individual arrangements, the market will force companies to engage in joint procurement. Thus:

- *Mandatory bulk procurement* imposed by the state is a superfluous arrangement.
  - Economies of scale in bulk procurement are achieved in international shipping and in storage facilities. The international majors invest in oil receiving and storage facilities from the point of view of the regional market, looking at the combined size of their specific market in several individual countries. Obligatory bulk procurement is done only from the point of view of a specific market, which may be smaller than the regional market of an international OMC.
  - The onward transport is undertaken by 20 tons road or rail tankers or by pipeline, where bulk purchasing does not provide any economies of scale.
  - Centrally administered ICB (international competitive bidding) ties procurement to a specific mode and entry point of supply. Liberalization leaves the choice to the imagination of the OMCs, which may think of new, innovative and cheaper ways of procurement.
- *State investments in import, handling and storage facilities* are first of all, not needed, and, secondly, due to corruption, political patronage and interference in commercial management an inefficient means.

*State investments made with reference to security of supply and/or economies of scale tend to be money losers and may either not achieve their objective or do it inefficiently*<sup>8</sup>:

- The state owned refineries (fully or partly) in countries like Kenya, Senegal, and Côte d'Ivoire have processing charges that are twice as high as the charges on alternative refineries in the Middle or Far East, increasing the cost of supply to the domestic consumer. Since refineries are capital intensive they provide little employment and their import intensive in construction leads to foreign indebtedness and to loss of foreign exchange during the repayment period. Due to

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campaigns, but since retailers were given too small margins, it was difficult for wholesalers to get retailers involved in the promotion campaigns they launched.

<sup>8</sup> Similar to so-called "strategic investments" in new acquisitions made by private corporations.

this, the value added to the national economy is most likely negative. The refineries do not enhance the security of supply. Due to the normal product supply from the refinery, the infrastructure to handle product imports is insufficient to cover total national demand. If a fire puts out the national refinery, there is a risk of supply shortage, because import facilities are insufficient.

- There is no need for the state to invest in security stocks, the obligation for that can be imposed on the OMCs as a condition for obtaining a license for importing. Product stocks need to be turned over at least twice a year for quality reasons. Doing it from a state owned specific security facility makes turn-over expensive – in stocks managed by OMCs, this is an automatic day-to-day activity. If a supply crisis occurs, the Government has to collaborate with the OMCs anyhow in implementing emergency measures to handle the situation.

*State investments* in storage and retail facilities to promote *regional equity* stifle the development of private initiatives. The state should instead provide economic-financial incentives for investments in non-commercial infrastructure in supposedly under-served small towns and rural areas by private operators, including smaller entrepreneurs.

The imposition of *national tariffs* for regional equity reasons imposes a need for detailed state regulation of each individual component of the cost structure. If the market operators were allowed to charge regional tariffs according to regional costs of supply they would be more interested in developing rural infrastructure. The impact on prices charged to rural consumers could be dampened by the introduction of appropriate tax- and other financial incentives.

## **1.4 Preliminary Conclusions about Liberalization – what works?<sup>9</sup>**

### **1.4.1 Market Reaction to the Reforms**

Concerning the reaction of the market to the reforms – or absence of reform - in the four countries, one can note positive and negative elements.

*Positive:* Overall, the hoped for reaction of the market is taking place in the four countries, being strongest in Kenya:

- Liberalization led to increased price competition for supplies to large consumers.
- New players are entering the market, providing first signals of increased price competition also in the retail market.
- The established OMCs find ways to reduce costs through cooperative commercial agreements.
- The role of the national refinery is being reduced in Kenya.

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<sup>9</sup> The experience of the reviewed countries with liberalization is very recent, only partial liberalization took place, data is still scarce, the time allocated for the field visits was short, the budget for the study was small. Under the circumstances, one can chose either to make so many qualifying statements that the resulting conclusions are toothless, or, to look at emerging patterns and use insights from these in combination with the limited hard quantitative data to make some clear qualitative judgements.

- New private investments in import and LPG marketing infrastructure are forthcoming.

*Negative:* Liberalization, unless it is strongly supported by complementary institutional measures, will under-perform in the following areas:

- Retail prices are more likely to increase rather than to decrease
- There are no new investments in service provision to “under-served” rural areas.

### **1.4.2 De-regulation of prices**

The elimination of *price approval* should not be confused with the elimination of *price control*. The comparison of the experience in Kenya and in Uganda confirms that liberalization needs to be backed up by efficient systems for the monitoring and control of retail prices. Otherwise, liberalization is certain to result in in-efficiently high market prices.

In Kenya and Uganda, which both abolished price approval, there is a need for *more active monitoring and market information dissemination* to public. The extent of data gathering and subsequent use of data is weak in both countries, although it is better in Kenya than in Uganda. The price monitoring system should monitor prices at the port, the border and the pump. To implement such a system it is necessary (i) to establish an accurate price build-up for the CIF prices to check offshore price differences, and (ii) to initiate an ongoing pump price monitoring system to check whether competition or collusion is at work<sup>10</sup>. In the event that the monitoring indicates the oil companies are being overcharged by their suppliers (compared to FOB prices), or by their providers of ocean freight (compared to reference ocean freight calculations), or in the event that there are signs of collusion or price fixing, the Government should intervene and impose sanctions .

The Government can threaten to revert to alternative price regulation methods such as resorting to centrally administered ICB and/or regulated prices. In the Philippines, for example, where prices, in principle, have been deregulated, the threat of negative political reaction has prevented the OMCs from even introducing fully justified price adjustments to the international oil price increases during the second half of 1999.

### **1.4.3 Market structure – the desirability of small players**

Lowering the barriers to entry is a complementary action, but not an alternative to close monitoring of prices.

Big, established OMCs compete at the level of *retail pump prices* only when a new major player decides to enter the market, and to gain an important presence. Otherwise, price competition, if at all, is for *negotiated bulk supply* to industrial consumers and the power companies. At the retail level, the major OMCs compete on brand image, discounts to regular customers, and by expanding their service stations

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<sup>10</sup> Required reference cost information include: quotations for FOB prices, ocean freight, insurance costs, handling, transit and product loss charges, working capital costs.

to include a small supermarket/grocery store and, possibly, fastfood. For obvious reasons, this type of behavior is best suited for service stations located near the major urban centers, where the purchasing power of the population is concentrated.

The market behavior of the major OMCs offers market niches for smaller operators:

- Not having the financial resources to undertake “fancy” investments in “attractive” service stations, they can decide to go for low-cost investments and to compete on lower prices.
- Whereas the major OMCs tend to make use of “standard” designs for their filling stations, the smaller players can, due to use of low cost equipment find it easier to identify profitable service opportunities in “under-served” areas.

The entry of a few smaller operators will not begin to affect the pricing policy of the major OMCs until their combined market share reaches at least 15 percent. In the four countries, visited for this study, smaller independents have only in Mali a share above 10% (60% at one point in time). In fact, the computed margins are relative low in this country (see table 2, pp. 24). But the high market share of the minors has only been achieved by tilting the playing field in favor of the minors; a short term measure which, in later years, may affect sector investments negatively.

Unfortunately, since liberalization has been implemented very recently, the material used for this report, does not provide any hard data on the investment performance of the independents in “under-served” areas.

#### ***1.4.4 Promotion of security of supply***

The most cost efficient means to build up and manage security stocks in a country is to include minimum security stock obligations in the licensing terms for OMCs. There are no economic or practical justifications for state investments in this area. If the state wants to make it easier for smaller operators to comply with the obligation to hold security stocks, it can make it obligatory of licensees to be member of a “security stock association”, which on behalf of the members takes care of investments in storage capacity or contracts storage in existing depots. The Government agency in charge of the sector oversight, needs to monitor and enforce the regulations.

#### ***1.4.5 Licensing***

Adequate technical, environmental and financial minimum conditions must be established by the licensing process for OMC-operation. Licensing of operators fulfills three major purposes:

- It provides for greater transparency for pricing and contracting for the individual components of the supply chain, somewhat similar to the unbundling of former integrated power companies. The unbundling is a prerequisite for introducing third party or open access on non-discriminatory terms.
- It protects the environment and consumer safety through the technical norms for operation (the “wild west” liberalization of Mali underscores the importance of ensuring compliance with environmental and safety norms and regulations).

- It establishes clear, transparent criteria for providing authorizations to operators ensuring that these are given on the basis of objective criteria.

Senegal offers a good example of how a rational licensing system can be designed and implemented. The 1999 downstream petroleum law has introduced a system of licenses for imports, for storage, for distribution of oil products and for transport with clear eligibility criteria. See section 7.3 for details.

#### **1.4.6 Open Access to Import Handling and Storage Facilities**

Obligatory *third party access* to storage and import handling facilities should be imposed in the licenses/permits for the construction of such facilities by OMCs. This lowers the barrier of entry for smaller players, who have a particularly important role to play in product import liberalization and retail competition to take place through the lowering of entry barriers for small operators.

A further step is to impose *open access* on holders of licenses for import handling facilities and storage. Ghana's state owned Bulk Oil Storage and Transportation Co (BOST) is a state enterprise driven approach for introducing open access.

#### **1.4.7 Pooling of bulk purchases**

The ability to achieve efficient and economic procurement and supply of oil products from international markets is dependent on the scale of supply operations<sup>11</sup>. The principal governing parameter is the minimum parcel/cargo size which may be attained in a given supply situation<sup>12</sup>. The larger the parcel size achievable, the better the better the freight terms on shipping from FOB source to the unloading port. This freight saving is the main effect, but to a lesser extent there are also usually economies to be gained in negotiating FOB price, with larger parcels.

At least in the short term, the case for abolishing *mandatory pooled ICB for bulk procurement of petroleum products* is not strong in small markets. It is hypothetical to claim that free procurement results in lower costs. Pooled ICB, furthermore, facilitates the entry of new, smaller players in retailing.

In the medium to long term perspective, the *case for free procurement* is stronger. However, the proposed innovative and cheaper methods from the OMCs will come only if an effective regulatory framework with monitoring is put in place. The country concerned would go back to ICB, if the OMCs on their own do not produce the delivered cost, which can be checked only if good monitoring is in place.

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<sup>11</sup> The ability to maximise cargo size to achieve economies is governed by several factors: (i) total volume of the market (of the country as a whole and/or of individual importers); (ii) port limitations dictating maximum vessel size, (iii) tankage ullage in coastal receiving port; (iv) availability of vessels in the region, which may be regularly slated. See W. Mathews: "Draft Final Report. Drafting of Law and Regulations for the Petroleum Product Market in Tanzania". August 1999. Pp. 5

<sup>12</sup> In Tanzania, with total clean product requirements of about 900,000 tonnes per year, the Mathews 1999 report concluded that the OMCs which have major market shares would be able to achieve sufficient cargo size on their own without resorting to joint procurement.

The full realization of long-term benefits from free procurement depends on the neighboring countries in the region abolishing their policies of mandatory pooled purchases as well. If *procurement is liberalized region-wide*, major OMCs will invest in an infrastructure that minimizes the cost of supply to that region.

#### **1.4.8 Elimination of price equalization schemes**

Price equalization schemes occur in two forms:

- A price stabilization fund for temporal changes in international prices for crudes and oil products;
- A transport compensation fund to eliminate the differences in the cost of fuel transport to different regions in the country.

Data to analyze this issue has not been collected by the study team because sufficient international studies exist to document the distorting impact of such schemes on the micro-economic behavior of operators. Due to the substantial importance of oil taxation revenues in small African countries, fluctuations Fortunately, there is clear trend towards moving away from such schemes.

#### **1.4.9 Elimination of transport cartels**

The elimination of detailed price regulation – fixing the price for the individual elements of the supply chain – is one of the steps to eliminate possible transport cartels. Whereas transport cartels can be independent of price regulation, detailed price regulation fosters the creation of cartels. Normally, an association of transporters negotiates (or provides technical inputs in working groups) with the regulatory authority the price for the transport component in the supply chain.

In Senegal, see section 7.3, the association of product transporters was abolished by the new petroleum law.

#### **1.4.10 Promotion of investments in “under-served areas”**

Liberalization, at least in the short run, is more likely to lead to a reduction in the number of service stations, rather than to an expansion. If a government wishes to promote investments in areas that are “under-served” in the eyes of the Government, it can:

- *Commission nation-wide periodic surveys to generate information on the extent and characteristics of petroleum products demand in small urban and rural centers and areas*, to assist in shaping private sector investment policies and decisions.
- On the basis of the results of these surveys, an *incentive based investment policy should be established for rural areas* in order to encourage investments by the oil marketing companies and local entrepreneurs.

## **1.5 Recommended Reform Package**

### **1.5.1 General recommendation 1: be comprehensive**

Ideally, the reform package in the downstream petroleum industry includes measures in four broad areas:

- Modernization of the Anti-Monopoly and Restrictive Practices Law and of the Petroleum Supply Law
- Abolition of detailed price controls, import and procurement rules, and their replacement by data gathering, price monitoring and public information
- Proactive measures to promote competition by reducing barriers to entry
- Commercialization and privatization of state owned industries

The clear conclusion from the comparative analysis of the four countries is that a well-designed state interventionist system (Ghana) is preferable to a badly designed and implemented liberalized regime (Uganda). *Ghana*, the least liberalized country, has the lowest inland margins, yet is endowed with the best service infrastructure of the four countries. Uganda with the most liberalized regime has the highest margins and a relatively poor infrastructure. The picture of Ghana becomes less rosy once the cost to the public budget of state company investments in infrastructure is taken into account. But on balance, the situation in Ghana is still preferable to the situation in Uganda.

There is no doubt that state intervention is needed in the downstream petroleum industry; the issue is about the appropriate balance between regulation and the free dynamics of the market. As a minimum, liberalization should be enshrined within a regulatory package composed of (i) a modern Petroleum Supply Law, (ii) an efficient price monitoring system, and (iii) a licensing regime imposing technical, financial, and environmental standards on the operators, and security stocks obligations.

Liberalization replaces direct government intervention by arms-length regulation that makes use of general rule setting, and monitoring of prices. This type of regulation calls for more sophisticated analytical-, market monitoring- and modelling skills of the supervising authority than the traditional cost-plus method of price approval. Staff has to be recruited to the new price monitoring unit and be given proper training before price deregulation is implemented. Thus, institutional support to the new unit must be part and parcel of the implementing package for reform.

### **1.5.2 General recommendation 2: proper sequencing for implementation**

The term “proper sequencing” of the implementation of the individual components of a liberalization program refers to four aspects:

- Upstream capacity building: begin providing proper training programs to regulatory staff before deregulation is implemented
- Avoidance of “stranded costs”: elimination of subsidies, e.g. to a national refinery (and to regional price equalization) need to be done gradually.

- Market structure: free competition will not show its beneficial effects until smaller players have entered the market and have some service stations in operation, and existing cartels, e.g. in transportation, have been dismantled or are in the process of being dismantled.
- Regional coordination: phasing out of the pooling of bulk purchases will not be superior to well-designed pooled arrangements until some degree of regional coordination in the phasing out of pooled purchases has been achieved.

The recently initiated reform program in Senegal is an example of phased liberalization. Operating subsidies to the refinery are gradually phased out over a four year period, and deregulation of prices proceeds stepwise.

### **1.5.3 Changes in primary legislation**

A review of the national *anti-monopoly law* is called for in connection with oil sector reforms because liberalization shifts the regulation of the petroleum industry out of the specialized sphere of petroleum supply law and deeper into the framework established by the general commercial and industrial laws. The traditional anti-monopoly laws are good at dealing with price fixing done by cartels<sup>13</sup>; they are usually less adequate for dealing with price leadership arrangements<sup>14</sup>. In Kenya, for example, there are two serious limitations in applying the Restrictive Trade Practices, Monopolies and Price Control Act of 1989 to the situation in the petroleum sector: First, it can be invoked only against covert price leadership; not against price leadership. Second, the modest penalties for violating the Act are unlikely to deter corporate bodies such as oil companies.

An additional reason for a review of the competition laws is that it can take inspiration from the new regulatory thinking that led to the modernization of anti-monopoly laws in OECD countries during the second half of the 1990s. The modernization was inspired, inter alia, by the new regulatory approaches that were introduced by liberalization reforms in the energy utility industry. Yet, few if any of the African countries modernized their monopoly law during the 1990s.

Several African countries, including all four visited for this study, introduced their reforms for the liberalization of petroleum supply without adopting a new *modern Petroleum Supply Act*. One reason for this can be that the impetus for reform came

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<sup>13</sup> An oligopolistic market becomes a *cartel* if there exist arrangements, amongst at least a few sellers, on key decisions in such areas as pricing, level of production and market shares.

<sup>14</sup> The extent of price collusion versus price leadership is difficult to prove or to establish by an anti-monopoly agency. In December 1999, the Swedish Competition Agency raided the offices of the five largest oil companies in Sweden. For many years, the companies had changed the listed prices of all their oil products on the same days, and kept identical prices. This is also the case in Denmark. During 1998 and 1999, Shell, Statoil, Hydrotexaco and Q8 changed their – identical listed prices – 54 times; each time on the same day. Yet, when the Danish Competition Agency in 1997 reviewed the pricing practices of the companies, it was not able to establish or to prove price collusion. The companies defended their pricing policy with the fact that listed prices are transparent, and that they closely follow each others' price movements. It was stated, that the real price competition concerned the negotiated bulk prices with industrial consumers. The Swedish Competition Agency undertook the raid, because it noticed that not only the listed prices, but also the movement in negotiated discounts for bulk supplies seemed to be synchronised!



from the outside – under pressure from the World Bank and the IMF – and was implemented half-heartedly by the Government through a minimalist reform package. Liberalization was hurried through via the adoption of ad-hoc decrees, the adoption of a new petroleum law could wait until later.

All four visited countries should define a proper legal and regulatory framework through the adoption of a modern Petroleum Act. Presently, no clear, transparent, immutable rules of the game are established. The petroleum law should cover, *inter alia*, minimum qualifications for licensing of operators, protection of health and safety of workers and of consumers/citizens, environmental protection, oil supply security, obligations of operators to furnish data, commercial protection of consumers and product pricing. There may also be provisions in the law and regulations governing competition, anti-monopoly..etc, but these are often best included in a generic law governing/promoting competition in all sectors.

Senegal can provide some inspiration, a new, modern law was adopted in 1999.

#### **1.5.4 Licensing and third party access**

The licensing procedures should provide for an open market, with freedom of entry for product importers/suppliers, and wholesalers/retailers with no excessive or unreasonable licensing qualifications to be met. Licensing criteria should be clear, transparent and immutable; the potential operator will know that if he meets the criteria he will be licensed to operate in timely fashion.

Also here, the recently adopted downstream petroleum law in Senegal can serve as an example having introduced separate licenses for importers, storage, distributors and transporters.

#### **1.5.5 Price regulation and quality control**

Price deregulation must be accompanied by an extensive monitoring of resultant consumer prices and regular wide dissemination of the results of such monitoring. The published monitoring analysis should incorporate comparison of consumer price movements over time with price movements in the international/regional reference market as well as with movements in the consumer prices of neighbouring countries (appropriately corrected for taxation differences). A third aspect of monitoring should be regional pump price comparisons within the country itself.

Product pricing can be completely deregulated in one step. In most cases, however, a two-phase approach is more appropriate. The choice of approaches is dependent upon the structural characteristics of the market and attendant (potential) state of competition

A 1st phase of partial deregulation of product pricing could be set up along the following lines:

- No control of intermediate margins such as wholesale, retail and transport; control only at final sale and then it is a ceiling price.
- Import parity price structure based on a hypothetical product supply from nearest international/regional Spot product market.
- Automatic consumer price adjustment at regular pre-defined intervals based on changes in the international reference product price and ocean freight market.
- Stable unit product taxation with changes no more frequently than once per year.

Such a formula may serve as a precursor to complete price deregulation, accustoming consumers to movements in international costs and also serving the Government regulatory/monitoring entity as an ideal formula for price monitoring under a deregulated regime. Also in this case, the 1999 petroleum law in Senegal can serve as an example.

The 2nd phase deregulation of product pricing would take place after two to four years introducing completely deregulated prices.

#### ***1.5.6 Corporatization, commercialization and privatization***

As a minimum, existing state enterprises should be made to operate on purely commercial principles; public service obligations can be handled by providing for subsidies on non-discriminatory terms to all players for specific purposes.

#### ***1.5.7 Collection of import duties and taxes***

Smuggling of petroleum products based on differences in national taxation levels and on the avoidance of payment of import duties destroys or blocks for the creation of a proper, modern commercial infrastructure.

Successful implementation of liberalization is strongly dependent on a strengthening of the efficiency in the collection of custom duties and taxes and anti-smuggling operations.

#### ***1.5.8 Promotion of regional cooperation***

The full benefits of deregulation depend on a regional coordination of efforts. The OMCs do the planning of the basic infrastructure in supply, import handling, storage and transport with a regional perspective in mind. The individual national markets are not sufficiently interesting. Yet, planning and regulation of the downstream petroleum industry and of basic road and other transport infrastructure is done at the national level only.

The World Bank (or another regional institution with sufficient prestige) should take the initiative to organise regional conferences on oil sector deregulation and optimal cross-border investments in infrastructure.

## **2. CROSS-CUTTING COMPARATIVE ANALYSIS** <sup>15</sup>

### ***2.1 Scope of sector liberalization in the four countries***

In most African countries that reformed the sector during the 1990s, the liberalization of the petroleum marketing industry is best understood in relative terms – as a reduction in detailed state intervention and regulation compared to the pre-reform period – rather than in absolute terms. Typically:

- state enterprises were commercialized rather than privatized;
- the detailed approval of tariffs was replaced by the fixing of maximum prices rather than being freed completely;
- bulk imports by state oil companies was replaced by pooled bulk imports organized by the private oil industry association; etc.

The four countries illustrate the differences in approach to sector reform. Ghana has hardly undertaken any liberalization. Mali changed from a “wild west” to a regulated approach including continued approval of prices. Kenya introduced partial liberalization with some price monitoring. Uganda introduced liberalization without the complementary strengthening of public monitoring. Thus, the case studies cannot be used to analyze the impact of a well-designed liberalization scheme replacing a well-designed regime of heavy state intervention. They can be used to show the impacts of non-regulated liberalization (early Mali and present Uganda) compared with the continuation of a state interventionist regime (Ghana).

### ***2.2 Liberalization in Four Countries – the Reforms***

#### ***2.2.1 Background information on the four countries***

The market for oil products in Ghana, Kenya, Mali and Uganda is small but showed high growth rates during the 1990s except in Kenya. Ghana has the highest GDP per capita, the highest consumption of oil products per capita and the best service infrastructure per capita. Due to the size of its population, Kenya has the highest national consumption of petroleum products. Uganda has the smallest per capita and national demand for oil products, and is the least-served country in terms of service stations per capita.

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<sup>15</sup> The objective of this study is to draw conclusions about the impact of reform and of the institutional pre-conditions for a successful implementation of liberalization by taking a look at the experience in practice a few years after the initiation of oil sector liberalization in four countries: Ghana (reform implemented in 1996), Kenya (October 1994), Mali (1992) and Uganda (1994). The focus of the report is on the three main white products. LPG is not discussed in this report; a separate report contracted by the World Bank covers that issue.

Table 1: Summary Background Information on the four Case Countries

	<b>Ghana</b>	<b>Kenya</b>	<b>Mali</b>	<b>Uganda</b>
Population (million)1994 <sup>1)</sup>	17	26	10	19
GDP/capita, US\$ <sup>1)</sup>	410	250	250	190
Commercial energy consumption MTOE <sup>1)</sup>	1,511	2,792	205	425
Oil consumption,				
- MTOE	1.2	1.4	0.4	0.36
- Growth rate during 1990s	6.7%	2.4%	12%	5.5%
- KOE/capita	70	54	40	19
National refinery	Tema	Mombasa	No	No
Service stations:				
- Total	994	745	156	286
- per 1 million inhabitants	58	29	16	15
- per 100,000 toe	83	53	39	79

1) Source: World Bank: World Economic Development Report, 1996.

### 2.2.2 Scope of reforms

Of the four countries analyzed in this study, Mali in 1992 was the first to introduce a package of measures to liberalize the petroleum supply and marketing industry, followed in 1994 by Uganda and Kenya, and finally, in 1996 by Ghana.

*Uganda* has the most liberal market. There is no mandatory pooling of procurement through ICB and no price regulation, and apart from the state ownership of security stock facilities, there is no commercial state involvement in the sector.

*Ghana* has the least liberalized market. The state is directly involved in the sector through its ownership of three companies in refining, in oil exploration and in storage. In principle, there is free procurement, but only the Tema refinery has oil importing and handling facilities and procurement continues to be done by ICB. The state through a new company is getting heavily involved in regional storage facilities and depots. Prices are still regulated.

*Mali* has free procurement but prices are controlled.

*Kenya* has abolished price regulation, but continues to procure through mandatory ICB. The state continues to be commercially involved in refining, in storage and handling facilities and in product marketing and retailing through state enterprises and through state co-ownership of shares in private firms.

### 2.2.3 Legal reforms

None of the countries adopted a new “primary” Petroleum Supply and Marketing Law. The liberalization measures were introduced through “secondary” legal instruments based on general energy, competition and commercial laws.

## 2.2.4 Measures to reduce barriers to entry

*Barriers to entry* can be divided into two groups:

- *High costs of entry investments*<sup>16</sup>, which can be influenced by the conditions imposed on licensees with regard to storage capacity, volumes of imports, mix of import products, minimum investments in retail outlets, and environmental safeguards.
- *Underdeveloped national capital markets* in Africa, which have to be addressed by overall economic reform policies.

The creation of an *independent laboratory for testing and certifying the quality of imported products* is an institutional prerequisite for establishing a level playing field. It was introduced by the Government of Kenya as part of the liberalization package, but not in Ghana, Mali and Uganda. In Ghana, all imports are still coming through the refining facilities, which has a testing laboratory. Mali and Uganda have no laboratory for testing petroleum products. A case can be made for the creation of independent regional laboratories: provision of an independent laboratory is a costly affair, particularly if it is just to counter check the results of one single existing laboratory (case of Kenya).

The governments of Mali and of Kenya adopted *specific discriminatory policies in favor of new entrants*:

- Before 1992, *Mali* started off its liberalization drive in a “Wild West” fashion, imposing hardly any conditions on new operators involved in importing oil products. This allowed unscrupulous new entrants to make windfall profits by disregarding environmental safety norms and avoiding payment of import duties and taxes (the latter even sanctioned by Government concessions to promote the market shares of national companies). The super-profits led to a surge of new entrants and a near collapse of the established “foreign” companies before the Government reversed the trend by imposing minimum performance requirements on licensees in 1992.
- *Kenya* facilitated entry by liberating new players from the otherwise general obligation of compulsory crude processing at KPRL to generate LPG for domestic consumption until sufficient import handling facilities were constructed. In addition, the Government decided that new players did not have to provide the national pipeline owner and operator KPC with “line fill or dead stocks” in order to access the pipelines.

A more “neutral” measure to reduce barriers to entry applied in Kenya and in Uganda was *to undertake a number of investments that provide newcomers with some of the basic infrastructure needed to handle imports and distribution of LPG and of petroleum products*. Kenya used the state owned oil company KPRL to construct a 3000 ton LPG importing facility and additional fuel storage facilities and import handling facilities at Mombasa plus loading arms for road tankers at the Nairobi

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<sup>16</sup> In Ethiopia, the Government stipulates that to qualify for license a new entrant must set up at least six filling stations and have a minimum total storage capacity of 5,000 cubic meters. The figures for setting up a three-pump filling stations and a three-pump filling/service station respectively, are US\$85,000 to US\$100,000. Source: AFREPEN, Petroleum Marketing in Africa, 1998

terminal. Ghana created a specific publicly owned company to invest in “open access” storage and transport facilities, the Bulk Oil Storage and Transportation Co., (BOST).

### **2.2.5 Commercialization and privatization of state owned companies**

The four countries differed with regard to the extent of state company restructuring and privatization:

- *Mali* abolished its state owned national oil company, PETROSTOCK (L’Etablissement d’Approvisionnement et de Stockage de Sécurité en Produits Pétroliers) as part of its 1992 reform package.
- *Kenya* has started an initial commercialization of the state owned oil companies. The National Oil Corporation of Kenya (NOCK), which had operated on a partial commercial basis due to its public service obligations in the past, was directed to embark on commercially viable economic activities only. NOCK started in 1997 to engage in retailing with the set-up of three fully fledged service stations in western Kenya. The Government intends to privatize NOCK when it is fully established commercially.
- *Ghana* in 1996 eliminated Ghana National Petroleum Corporation (GNPC)’s legal monopoly position in crude oil and product importation/supply. To be involved in downstream petroleum operations, GNPC needs to apply for a license as an oil trading company just like any private operator. Ghana has not yet engaged in any privatization activity, but intends to privatize the newly created “public access” storage company, BOST, at a later stage. The state continues to own Tema refinery and to be involved in petroleum exploration.
- *Uganda* did not have a state owned oil company.

### **2.2.6 Imports and storage of oil products**

The four countries had different approaches/market philosophies to the liberalization of oil procurement and storage.

- *Uganda* introduced free liberalization of oil imports and procurement.
- *Mali* introduced liberalization in principle. But political-structural factors continue to limit procurement to purchases mostly from the refineries in Abidjan and Dakar.
- In *Kenya*, OMCs are, in principle, free to import refined products. But due to lack of sufficient import handling facilities for LPG, the Government requires the established OMCs to process at least 1.6 million tons of LPG-rich oil annually to generate 30,000 tons of LPG. Secondly, an industry committee chaired by KPRL coordinates importation of crude oil and refined products. Individual OMCs give their requirements to the pipeline coordinator, who is an agent paid by the OMCs. This agent compiles the requirements and forwards a copy to the Ministry of Energy. The imports are then procured through an open tendering system, coordinated by the *Ministry of Energy*. Member OMC’s are asked to bid on

requirements and the lowest bidder imports all requirements on behalf of all others<sup>17</sup>.

- *Ghana* established a *National Crude Tender Committee* comprising Oil Trading companies and local Oil Marketing Companies as members. An application must be made to qualify as a supplier. An estimate of Ghana's total crude oil and product requirements is put together on a quarterly basis and the registered suppliers can bid.

### **2.2.7 Price control and regulation**

The four countries differ with regard to the elimination of tariff approval by the state:

- *Kenya* and *Uganda* abolished their approval of petroleum prices by the Government and established price monitoring units in their ministry to monitor and to publish periodic reports on the development in prices. However, whereas *Kenya* got a monitoring system implemented, *Uganda* did it in principle, but not in practice.
- In *Ghana*, a new state company, Bulk Oil Storage and Transportation Co., (BOST) sets prices in a sort of floor/ceiling price ("snake") framework. BOST will monitor and publish international market prices and establish and publish a unified ex-depot price throughout the country
- In *Mali* price setting is in theory deregulated. In practice, so-called indicative pump prices set every trimestre by a committee composed of representatives from Government, the Chamber of Commerce and Industry the OMC association has binding force. The indicative prices are set within a "snake-framework", that is, revisions are subject to deviations from the fixed upper and lower bounds.

### **2.2.8 Measures to Promote Security of supply**

The measures to promote the security of supply vary:

- In *Kenya*, OMCs must individually stock minimum operational stocks equivalent to 30 days' consumption of each liquid product and ten days for LPG.
- In *Ghana*, the new state company, *Bulk Oil Storage and Transportation Co.*, (BOST) holds security stocks
- The Government in *Uganda* holds security stocks in two depots
- *Mali* intends to set up a depot at Bamako for security stocks

### **2.2.9 Measures to expand service networks to under-serviced areas**

In all four countries, the creation of retail stations in under-served areas is left to market forces. The creation of BOST in Ghana, with its policy of national ex-depot

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<sup>17</sup> The price basis for bidding is the average of posted or spot prices as quoted in the Platss Oulgram postings for the Mediterranean a day before Bill of Lading date, on the Bill of Lading date and a day after, plus a premium covering freight rate and a margin. Since the price postings are well-known, the competition is usually derived through the offering of low or negative premiums on a per barrel or per ton basis.



prices, however, facilitates the entry of new entrepreneurs who wish to invest in rural service outlets.

Kenya more or less abolished the Petroleum Development Levy, PDL, which was created prior to liberalization to generate finance for investments in service stations in under-served areas.

## **2.3 Liberalization in the Four Countries – the Results**

### **2.3.1 Development of prices and of margins**

The first question in the evaluation of liberalization reforms is “who benefits – the consumer or the OMC?”

The study does not have hard data to back up the claim that liberalization intensified the competition in supply to *large commercial consumers, including power stations*, lowering the product prices for this group. These deliveries are subject to negotiated, commercially confidential, prices. But local industrial observers believe that this is the case in Kenya.

The evidence concerning the impact on *retail / pump prices* gives mixed results. The imputed distribution margins increased post liberalization increased substantially in Ghana (about 100%), in Kenya (about 30%) and in Uganda (about 50%) but fell by 50% in Mali <sup>18</sup>. Table 2 shows the development in imputed distribution margins for selected petroleum products <sup>19</sup>. The data on the post-liberalization experience show the immediate impact and the longer term impact. If company margins have been artificially depressed by price controls, liberalization should lead to an increase in margins in the *short term* –, - after which the impact of new entrants on the market will make itself felt in the form of lower margins in the *longer term*. The situation in *Kenya* shows this development, whereas margins have shown a continuously upward trend in Uganda and Ghana.

One would not expect that new entrants make an impact on prices until they have gained at least a 10 percent share of the market. Yet, the explanation is not that new entrants have managed to grab a larger market share in Kenya than in the other two countries. Newcomers in Kenya have only a gained a market share of 1 percent so far, and observers claim, that an oligopolistic situation exists in the Kenyan retail market, in which a couple of companies act as price leaders and set the prices, while the others adopt the same price after a certain time interval. A likely explanation is that the petroleum price monitoring unit in Kenya makes a difference. Although its performance is far from perfect, it does some monitoring in practice, whereas Uganda is passive. In addition, one can note in table 3, below, that the market structure in Kenya has become less concentrated whereas it became more concentrated in Uganda and in Ghana!

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<sup>18</sup> The devaluation of the FCFA in 1994 distorts the result. Expressed in FCFA, the imputed inland margin remained approximately the same in Mali.

<sup>19</sup> Retail pump prices minus calculated reference cost, cif at the sea harbour.

*Tabel 2: Imputed Inland Distribution Margins, Pre and Post Reform, US\$/liter*

	Ghana	Kenya	Mali	Uganda
Gasoline				
- Pre-reform	0.04	0.125	0,402	0.22
- immediately post	0.06	0.180		0.30
- years after	0.08	0.157	0.166	0.36
Jet-Kerosene				
- pre-reform	0.02	0.127	0.415	0.24
- immediately post	0.04	0.171		0.31
- years after	0.06	0.165	0.163	0.34
Gasoil/diesel				
- pre-reform	0.04	0.126	0.393	0.24
- immediately post	0.06	0.172		0.33
- years after	0.08	0.160	0.193	0.34

The inland margins - and retail prices ex-taxes - are higher in *Uganda* than in the other three countries. That retail prices ex-taxes are higher in landlocked countries like *Uganda* and *Mali* than in sea-countries like *Ghana* and *Kenya* is natural: the inland costs from the seaboard make up about one third of the CIF Kampala cost of the product. The cost of transport justifies that inland margins are higher in *Uganda* than in *Kenya* - the margins in both countries are computed with reference to landed cost in Mombasa in this study<sup>20</sup>. Yet, using the rule of thumb that the cost of product transport is US\$0.1/ton/km, the 500 km transport distance between Kampala and Nairobi adds only US\$50 per ton in additional transport costs or US\$0.042 per litre. Deducting this extra-costs from the margins in *Uganda*, still leads to imputed margins that are 50% higher than in *Kenya* for diesel, 80% for kerosene and 100% for gasoline. Thus, it seems difficult to avoid the conclusion that liberalization in *Uganda* has been detrimental to retail consumers<sup>21</sup>.

The downward pressure on margins in *Mali* is stunning. During the “wild-west” style liberalization of the late 1980s, new entrants grabbed 60 percent of the market. Investment requirements were not imposed on newcomers through licensing and tax and duties fraud as well as environmental disregards gave them an artificial cost advantage. Whether margins can be kept as low, once new investments have to be made in the expansion of capacity may be doubted. It can be seen from table 1 that *Mali* has the lowest number of service stations relative to annual sales.

*Ghana*, the least liberalized country, has the lowest inland margins yet is endowed with the best service infrastructure of the four countries (see table 1).

<sup>20</sup> Most of Ugandan imports are not actual product imports into Mombassa, but originate from crude processing at the Mombassa refinery. The same, however, is the case for Kenya. Therefore, this does not change the argument about unjustifiably high differences in inland margins (ex-taxes).

<sup>21</sup> Other costs that can be added for *Uganda* products are: additional costs for truck loading at terminal in Nairobi; losses associated with transport (whether through emission losses or theft); cost associated with additional depots (capex, operational, working capital) for export to *Uganda*. Still, even after that adjustment, the differences in margins remain substantial.

### **2.3.2 Impact on investments and service coverage**

The expectations were that increased competition and the freedom to set prices would expand the number of service stations and improve the regional coverage of stations. Inter alia, because new, smaller companies would see a niche market for themselves in under-served regions, in particular in small towns and the rural areas.

There is no indication that the OMCs are planning investments to spread the retail network more evenly and into the rural hinterland. Roughly 90 percent are located in just a few cities and large towns, including those made by newcomers. Very likely, the concentration of stations reflects the geographic concentration of demand for oil products.

The new investments by established OMCs are in the expansion of existing retailing and servicing stations in the major cities, and their conversion into multi-purpose establishments with supermarkets, restaurants and stores for automobile accessories and spare parts.

Due to rationalization, the number of service stations has gone down in Kenya and in Uganda.

### **2.3.3 Impact on market structure**

The market structure has become less concentrated in *Kenya* since liberalization and is very competitive in *Mali*, as can be seen in table 3, below, on the development in the Herfindahl Hirschman Index (HHI) for overall market share (volumes sold) and the number of service stations before and post liberalization.

*Table 3: Development in Herfindahl Hirschman Index*

	Ghana	Kenya	Mali	Uganda
HH-Index for product volume				
- Prior to liberalization	2175	1810		2424
- Post liberalization	2237	1686	1043	2518
HH-Index for service stations				
- Prior to liberalization	2666	1716		1790
- Post liberalization		1530		2206

In Ghana and in Uganda, liberalization led to an increased concentration of the market. In all countries, the market share of the dominant OMC had reduced post-reform.

### **2.3.4 Cooperative agreements to reach economies of scale**

The experience does not allow firm conclusions to be drawn concerning the “economies of scale” debate. In Kenya competing OMCs have engaged in joint investments in storage and handling infrastructure, and at least one case of voluntary

pooling of LPG imports can be noted <sup>22</sup>. The “Wild West” situation in Mali permits no conclusions to be drawn, whereas Ghana continues a policy of institutionalized pooling of procurement.

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<sup>22</sup> The AFREPEN-study, Petroleum Marketing in Africa, speculates, however, that this was pure “once and for all” political window dressing by the established multinationals to make the point to politicians in support of World Bank / IMF pressure that forced, institutional pooling of bulk procurement was not needed.

## 3. THE EXPERIENCE OF KENYA

### 3.1 Local Pre-Conditions for Reform of the Petroleum Industry

The local conditions in Kenya during the 1990s for a successful liberalization of the downstream petroleum industry were mixed.

*Positive preconditions* for a successful promotion of competition were the comparatively high level of demand for oil products and the relative sophistication of the national financial market<sup>23</sup>. The demand for oil products rose from 1.9 million tons in 1988 to 2.2 million tons in 1990, fell to 1.8 million tons in 1991<sup>24</sup>, after which it rose steadily to 2.1 million tons in 1995. The money market in Kenya is relatively liquid – treasury bills as well as commercial papers are regularly issued – and the capital market offers a range of instruments ranging from bonds and stocks to debentures in the securities market and mortgages, term loans and leases in the non-securities segment. Thus, if good investment opportunities are identified, local entrepreneurs are, in principle, able to raise finance for their business plans.

On the *negative side*, the liberalization program faced a problem of high stranded costs in the form of a non-competitive petroleum refinery, which was interwoven with Government ownership of infrastructure assets and with insufficient investments in LPG import facilities. These structural factors forced the government to “muddle the liberalization reforms through” during the 1990s, waiting for the issues to be settled. Compromises had to be made, which explains, why the Government did not issue a new modern petroleum law, but used other legal avenues to address regulatory / institutional issues in an individual step-by-step manner.

### 3.2 Pre-Reform Legal-, Regulatory- and Industry Structure

#### 3.2.1 Industry Structure and Infrastructure

The public sector was directly involved in the development of refining, storage, and distribution infrastructure through four companies:

- The state owned *National Oil Corporation of Kenya (NOCK)* was involved in petroleum importing having a monopoly to import 30 percent of import demand. Due to public service obligations NOCK operated on a partial commercial basis having no retail infrastructure and selling its oil to the OMCs at the KPRL gate.
- *Kenya Petroleum Refineries Limited (KPRL)*, a joint venture owned on a 50/50 basis by the state, on the one hand, and Shell, Caltex, Mobil and BP, on the other

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<sup>23</sup> Comparative to standards in Africa.

<sup>24</sup> The fall was caused by the devaluation of the Kenyan Shilling, which led to an increase in the price of oil products and to the economic crisis in Kenyan industry, which reduced the demand for oil products in production.

hand, owned and operated a hydro-skimming refinery with a throughput capacity of roughly 1.6 million tons per year<sup>25</sup>.

- The state owned *Kenya Pipeline Company (KPC)* owned and operated petroleum transport pipelines bringing products from Mombassa to the major demand centres in the interior.
- The state owned *Kenya Railway Corporation* transported oil products in rail tankers.

By virtue of its 50% ownership of KPRL and 100% ownership of KPC, the state owned about 55% of storage assets in the country, mainly at the seaport and along the pipeline routes. The storage capacity owned by the private sector is located mainly in the interior of the country..

The pipeline system and railway ownership gave the Government a dominant position in bulk transport. Although the legal axle load limitation of 10 tons made road transport relatively more expensive than transport by railway and pipeline, it was mandatory to use KPC's Mombasa-Nairobi - Kisumu pipeline for the transport of oil products.

The development of retail infrastructure was undertaken by the private sector, with eight companies splitting the market: Agip, BP/Shell under combined management structure, Caltex, Mobil, ESSO, Total, Kenol and Kobil.

### **3.2.2 Security of Supply**

It was *mandatory for oil companies marketing petroleum fuels in Kenya to import sufficient crude oil quantities for processing at the hydro-skimming refinery of KPRL* to meet the domestic demand as closely and as economically as possible. *Importation of refined products* was only sanctioned when it was ascertained that it was not economically prudent to import additional shiploads of crude oil for processing merely to meet small supply shortfalls of various refined products.

The policy imposed two *direct financial costs* on consumers. (i) 's processing fee was US\$2.50 per barrel, whereas similar refineries in the Persian Gulf and the Far East charge US\$1.20 per barrel. (ii) Due to technological constraints of its hydro-skimming technology, Kenya needs to import higher cost sweet crudes in order to match the output in the form of residual oil with national demand. This imposes an economic penalty on Kenya of US\$0.75 per barrel of crude oil imported for domestic processing<sup>26</sup>.

The Government presumably regarded *NOCK's mandatory 30 percent involvement in crude oil imports* as another measure to enhance the security of supply.

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<sup>25</sup> Effective crude oil processing capacity of some 85,500 barrels per calendar day (nameplate 95,000 barrels per stream day).

<sup>26</sup> Arthur D. Little, 1993 quoted in AFREPEN, *Petroleum Marketing in Africa*, 1999, pp. 31. At a throughput of 1.6 million tons, this penalty is equivalent to US\$9.2 annually.

### 3.2.3 Consumer Protection – the Price-setting Mechanism

The Government fixed consumer prices on the basis of a number of parameters related to supply and distribution costs, the most important of which was the *procurement and refining costs of crude oil imported and processed at KPRL* <sup>27</sup>:

- 1) FOB weighted average price of a barrel of cocktail crude oils imported over an agreed period, usually one month, to meet the domestic demand for motor gasoline and middle distillate products as closely and economically as possible.
- 2) Weighted average freight rates for vessels of around 80,000 tons, based on average freight assessment indexed to World Scale for shipments to Mombasa.
- 3) Insurance premiums fixed at a maximum of 0.15% of crude cost and freight per tone or per barrel landed at Mombasa.
- 4) Letter of Credit opening charges based on the CF values and factored in.
- 5) Central Bank of Kenya fees for foreign exchange allocation and issuance of foreign exchange at 2% of crude cost and freight values.
- 6) Wharfage equivalent to 1.55% of cost, insurance and freight value of all imported commodities into Kenya, including oil.
- 7) Ocean loss at 0.5% of the landed cost per barrel or ton, taking into account the above parameters.
- 8) Exchange rate of the Kenya shilling to the US dollar at the time of price increases negotiations relative to the base exchange rate.
- 9) Processing fee per barrel of crude oil.
- 10) Refinery fuel use and loss at about 5% of the crude oil throughput. .

The second cost parameter was *industry managed costs*, which were basically operating and maintenance expenses <sup>28</sup>. The costs were reviewed each year jointly by a *Government Industry Committee* and adjusted either down or up depending on inflation. These included:

- 11) Office overheads
- 12) Direct staff expenses (wages and salaries including fringe benefits)
- 13) Business insurance premiums
- 14) Product storage expenses
- 15) Stationary expenses
- 16) Depreciation allowances

The third parameter was *transshipment losses* at 0.3% of adjusted procurement and refining costs.

The fourth item was the *return on capital* covering fixed assets and working capital. The level of return on trading assets was negotiated from time to time. Negotiations on the base capital value were always protracted and led to continued disagreements. The oil companies used two set of figures. One, the lower, for taxation purposes, the

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<sup>27</sup> Source for this section, AFREPEN, *Petroleum Marketing in Africa*, 1999, pp. 35 ff.

<sup>28</sup> To ensure that high cost firms could not benefit fully from the cost-plus arrangement, company costs were plotted against each company's sales volume in previous years, and the best line of fit was drawn. The gradient of that line was taken as the representative industry managed cost.

other, and higher for the price negotiations over return on employed capital<sup>29</sup>. Oil companies consistently asked for a margin of 8 percent above inflation and net of income tax. The exchange rate fluctuations were also submitted by the oil companies for adjustment during negotiations.

The *road transport tariffs for oil products* were controlled by the Government.

### **3.2.4 Promotion of Regional Equity and Infrastructure**

In 1991 the government introduced a *Petroleum Development Levy (PDL)* through an Act of Parliament, with the stated purpose of devoting the PDL funds to the creation of new marketing and retailing facilities, in particular in areas poorly served by the private oil companies. The PDL, which constitutes a very small part of the total tax on petroleum, is a flat uniform rate applied to most refined products. The National Oil Corporation of Kenya (NOCK) was entrusted with the responsibility of collecting the PDL from the oil marketing companies, with the implicit understanding that NOCK would be allowed to use it for investment purposes in underdeveloped rural areas.

## **3.3 Post-Reform Legal-, Regulatory- and Industry Structure**

In October 1994, the petroleum sector was almost fully liberalized. The public sector retains a strong presence in storage, refining and bulk distribution, but the pricing and marketing of refined products is entirely in the hand of the private sector. The transport of oil products through KPC's pipelines is no longer compulsory, and transport tariffs are no longer controlled.

### **3.3.1 Introduction of a new Legal and Regulatory Framework**

Kenya liberalized its downstream petroleum sector without introducing an up-to-date modern law governing the sector. The law in effect is still the *Petroleum Act of 1972*. A first draft for a new act was completed in 1995 by the Consultants Oraro and Rachier Advocates from Nairobi and Steptoe and Johnson from Washington, DC. But in 1999, the Ministry of Energy was still working on a final draft.

Until a new Petroleum Act is adopted by Parliament, the *Essential Supplies, Imports and Exports Act* and the *Restrictive Trade Practices, Monopolies and Price Control Act, Chapter 504* from 1989 are the main legal reference points for Government regulation of the commercial activities in the petroleum industry.

Many separate, diverse laws deal with the *Environment*. A new draft law is in the works, which will be the overall umbrella Law.

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<sup>29</sup> The IMF and World Bank argued that the lack of transparency continued to help oil companies to obtain cartel-driven economic rents from assets, which were either redundant or performing below commercially acceptable levels.



### **3.3.2 Commercialization and Privatization of State Companies**

The National Oil Corporation of Kenya (NOCK), which had operated on a partial commercial basis due to its public service obligations in the past, was directed to embark on commercially viable economic activities only. NOCK started in 1997 to engage in retailing with the set-up of three fully fledged service stations in western Kenya. The Government intends to privatize NOCK when it is fully established commercially.

### **3.3.3 Procurement of petroleum products and of crude oil**

Importation of crude oil and refined products is coordinated by an *industry committee chaired by KPRL*. Membership is restricted to the current oil marketing companies, (OMCs) NOCK, and the Ministry of Energy. The committee's primary function is to program the importation of crude oil and refined products, in order to ensure an orderly supply of oil to Kenya. Until LPG direct import handling facilities are in place the established OMCs are required to supply a minimum of LPG-rich crude oil to the refinery. The remaining white product requirements after corresponding refinery production of white products, must be procured through an open tendering system, which is coordinated by the *Ministry of Energy*. Participation is restricted to OMCs, including NOCK, which have established retail outlets. Individual OMCs give their requirements to the pipeline coordinator, who is an agent paid by the OMCs. This agent compiles the requirements and forwards a copy to the Ministry of Energy. OMC's are then asked to bid on requirements and the lowest bidder imports all requirements on behalf of all others<sup>30</sup>.

### **3.3.4 Security of Supply**

The Ministry of Energy through the *Essential Supplies, Imports and Exports Act of Kenya (chapter 502)*, issued a legal notice in May 1994 requiring companies individually to stock minimum operational stocks equivalent to 30 days' consumption of each liquid product and ten days for LPG.

### **3.3.5 Consumer Protection – Control with Prices**

Since liberalization, the OMCs are free to fix their prices, they are no longer subject to Government approval. The OMCs simplified their price setting calculations, aligning their profit margins to mark-ups on import parities of imported products<sup>31</sup>.

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<sup>30</sup> The price basis for bidding is the average of posted or spot prices as quoted in the Platss Oulgram postings for the Mediterranean a day before Bill of Lading date, on the Bill of Lading date and a day after, plus a premium covering freight rate and a margin. Since the price postings are well-known, the competition is usually derived through the offering of low or negative premiums on a per barrel or per ton basis.

<sup>31</sup> According to AFREPEN, *Petroleum Marketing in Africa*, pp. 39, since deregulation the OMCs after processing their crude at KPRL, use the price relationship between various products in the Persian Gulf and the Mediterranean firstly to develop similar product pricing structures in Kenya. Next, they compute mark-ups or gross profit margins of various products based on import parities of such

The Government relies now on two tools to control prices.

The *Restrictive Trade Practices, Monopolies and Price Control Act* from 1989 provides the general legal framework for price control. *Chapter 504* in the Act vests the Government with the mandate to encourage competition in the entire economy, including the petroleum sector, by prohibiting restrictive trade prices. With regard to the control of price leadership in the oligopolistic petroleum industry, however, the act has two major weaknesses<sup>32</sup>:

- A pricing offence is considered committed only if there exists, or has existed, an *agreement among sellers* in the market to influence prices. It specifies with regard to pricing, that a practice is considered restrictive if it entails an agreement or arrangement between manufacturers, wholesalers or retailers to sell goods at prices or on terms agreed upon between themselves. In other words, pricing mechanisms based on covert behavior and inherent market failures are not addressed by the law.
- The other weakness derives from the *nature of penalties* (maximum fine of Ksh100,000 and/or an imprisonment term not exceeding two years), the processes for identification of an offence (need for a complaint from an interested party and a manpower intensive investigation by the responsible ministry) and the prosecution and conviction of an offender (convening the Restrictive Trade Practices Tribunal with possibility of appeal to higher courts of law). A case may draw on for a long period.

A special *Petroleum Monitoring Unit (PMU)* was established by the Ministry of Energy in 1994 to monitor supplies<sup>33</sup>. The unit collects data on stock and product prices and compiles weekly reports. The PMU does regular monthly soundings of petroleum product prices at the retail level - primarily in and around Nairobi. It compares the level of prices with “procurement prices” based on Abu Dhabi National Oil Company (ADNOC) prices of Murban crude as posted at the beginning of every month. This crude oil cost comparison basis with finished products in final markets is used by PMU since it is the basis for the OMC’s as well as Ministry of Energy calculations. Information on consumer prices is sent to local newspapers for publication from time to time. The same information is also sent to local electronic media for broadcasting on radio and television, primarily to advise consumers on where to source cheaper fuels.

Whether the PMU has been effective is open to questioning. When the unit was created in 1994, monitoring was weak since the personnel employed was demanding salaries in US\$ through IDA funds. During interviews in 1998, the view of the Ministry of Energy and of the general public was that liberalization had provided little benefit to the consumer and nation as a whole. The Ministry felt that “overcharging” took place, that prices were now higher in relation to procurement and refining costs, and that the OMCs were quick to raise prices in response to cost increases, but slow to reduce in face of reducing supply costs. However, no hard data could be provided by PMU to back up these perceptions. The Ministry/PMU expressed that OMC attention

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products. The product-price relationship is computed iteratively until each oil marketing company obtains the desired level of both consumer prices and gross trading profits.

<sup>32</sup> AFREPEN, *Petroleum Marketing in Africa*, 1999, pp. 41

<sup>33</sup> Prior to that petroleum matters were handled by the Planning Department.

to Health Safety Environment (HSE) had been maintained if not improved, but were not able to indicate that regular checks and inspections were occurring.

### **3.3.6 Promotion of Competition – Reducing Barriers to Entry**

*License applications to operate in the downstream sector are screened in the Ministry of Energy, but issued by the Ministry of Trade.*

The Government undertook a number of measures to facilitate new players to enter the market.

A first, basic measure was through KPC to construct *a laboratory at Mombasa for testing and certifying imported products* making dependence on KPRC for testing a thing of the past. However, the measure was implemented incompletely. Product qualities are not standardized, and some testing equipment was not installed.

A second measure, was the decision by the Government to *liberate new players from the obligation of compulsory crude processing at KPRL to generate LPG for domestic consumption until import handling facilities were constructed*. Marketing of LPG was constrained by a lack of infrastructure. Total storage capacity was sufficient to cover only half of notional demand, and the absence of a viable LPG import handling facility for LPG made supply totally dependent on the continued operation of KPRL. The established players were mandated by the government to process crude oil at KPRL to generate at least 25,000 tons of LPG annually. They insisted that new firms not buying fuel products from any of them should be required to process crude oil, arguing that without making LPG supply to domestic consumers mandatory, the playing field would not be level. The Government rejected the demand.

A third measure, was the *Government’s refusal to accept the demand from established OMCs that new players had to provide KPC with “line fill or dead stocks” equivalent to 4 percent of the total volume of products in the entire pipeline system, in order to access the pipeline*.

A fourth measure, was the decision *to undertake a number of investments through KPC that provided newcomers with some of the basic infrastructure that was needed to handle imports and distribution of LPG and of oil products*. The most important were the construction of a 3000 ton LPG importing facility and of additional fuel storage facilities and import handling facilities at Mombasa plus loading arms for road tankers at the Nairobi terminal <sup>34</sup>.

The last measure was prompted by KPRL’s refusal to transfer to KPC or other storage facilities products imported by a firm, which had no crude oil processing agreement with it. Since this demand more or less required the prior establishment of retail infrastructure, it prevented the emergence of independent oil traders for direct

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<sup>34</sup> The decision to undertake the investment through KPC was opposed by the established OMCs, who argued that they were fully capable of undertaken needed investments themselves. The private shareholders of KPRL – Shell, Caltex, Mobile, and BP – were afraid that the construction of LPG import facilities would kill of the obsolete refinery by opening up the gate for lower cost oil product imports. Closure of the refinery is expected to lead to US\$15 million in clean-up costs.

supplies to larger customers. The OMC's equally refused to provide "hospitality" for storage to new players, even at fees above commercial levels. Existing players provide hospitality only among themselves. An alternative measure would have been to impose mandatory third party access to owners of storage and import handling infrastructure. However, because the Government had the option through its state ownership of KPC to invest directly, it chose to do so.

### **3.3.7 Promotion of investments to "under-served areas"**

The creation of retail stations in under-served areas is left completely to market forces.

The PDL was never used for its intended purpose of investments in petroleum infrastructure in rural areas. The Treasury used the PDL to reduce the fiscal deficit.<sup>35</sup> The PDL underwent three changes:

- Following disputes between NOCK and the Treasury, *NOCK* was deprived in 1996 of the responsibility to collect the PDL, which was transferred to the *Commissioner of Customs and Excise*.
- In 1996, the government enacted an *amendment to the PDL Act of 1991* prohibiting the use of PDL funds for activities, which are in competition with the private companies. The amendment effectively bars access to these funds by public companies such as NOCK and KPC.
- The PDL Act was further amended by the *1997 Finance Bill*, which replaced the word "petroleum" with the word "energy", and proposed the transfer of Ksh260 million from the PDL Fund to the rural electrification fund<sup>36</sup>.

## **3.4 Results – Policy Conclusions**

### **3.4.1 Impact of Liberalization on Industry Structure - Number of Operators and Market Shares**

ESSO ceased to operate in Kenya from January 1996 selling its marketing and retail interests to Mobil and its share in KPRL to Shell.

The sector is in transition to a less concentrated market structure. Although the entry of new players was delayed by the need to take political decision on the above mentioned structural factors, the number of licencees had expanded from 8 to 18, and the number of operators from 7 to 17 by 1998<sup>37</sup>. The Herfindahl - Hirschman Index declined between 1992 to 1996 from 1810 to 1720<sup>38</sup>. One indicator of the transition

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<sup>35</sup> The annual collection of PDL after liberalization amounts to about Ksh200 million. The cumulative PDL fund held by the Treasury were in the beginning of 1998 of the order of Ksh1,400 million, enough to create about 400 outlets in non-metropolitan areas Source: AFREPEN, *Petroleum Marketing in Africa*, pp.

<sup>36</sup> Source: AFREPEN, *Petroleum Marketing in Africa*, pp. 103

<sup>37</sup> Shell and BP are separate licencees but are combined in one, joint-venture marketing company.

<sup>38</sup> See table in annex 7.1.1. The "official" statistics showed the additional 10 companies with no market share; in fact, they have a little bit - probably about 1% among the 10 in total; if we remove 1% from the original 7 and assign this 1% to the additional 10 in equal 0.1% shares the H-H would now be 1686.

towards a much less concentrated structure is in shares of numbers of service stations for which we have more recent statistics. As indicated by the table in annex 7.1.1, the H-H index applied to shares of service station numbers declined from 1716 in 1992 to 1530 in 1998.

So far, the market share of new “national” entrants is less than 1 percent, as only two operators have been able to set up service stations, Jovenna who has invested in five stations and Nock who has invested in two. Together they own 1.1% of all service stations.

### **3.4.2 Impact on the Use and the Operation of the Refinery**

Since deregulation, OMCs are, in principle, free to import refined products. But the lack of import handling facilities for LPG, requires the oil companies to process at least 1.6 million tons of LPG-rich oil annually in order to generate the traditional quantity of 30,000 tons, that was supplied to the domestic market.

The volume of *crude oil imported* into Kenya, dropped from 2.2 million tons in 1994 to 1.7 million tons in 1995, whereas *petroleum fuel imports* rose from 0.3 million tons to 0.7 million tons.

KPRC attempted to counter the tendency by reducing its processing fee in 1995 from US\$2.50/bbl to US\$1.95/bbl, but was still non-competitive with the rate of US\$1.20 charged by similar oil refineries in the Middle and Far East <sup>39</sup>.

### **3.4.3 Competition in Supply to large-scale Consumers**

The oil companies, when fixing margins above import parities, are cautious when dealing with large-scale customers who are supplied on a contract basis. In such situations, the gross profit mark-ups, that are factored in are small.

Because of the stiff competition at the bulk or large-company level, the reported profits have declined for all companies. The Income Tax Department reported a decline in revenue paid by the oil companies in 1995 and in the first half of 1996 <sup>40</sup>.

### **3.4.4 Competition at Retail Level**

The liberalization experience in Kenya of competition at retail level repeats the world-wide trend. The established, larger, OMCs compete on brand name and service quality. Price competition is provided only by small new players, who want to establish themselves on the market.

Retail infrastructure development shows the new international approach. Unlike in the past, when small service stations were built purely for the purpose of retailing petroleum fuels, new service stations built by established OMCs are now larger and

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<sup>39</sup> Source: AFREPEN, *Petroleum Marketing in Africa*, pp. 31

<sup>40</sup> Source: AFREPEN, *Petroleum Marketing in Africa*, pp. 106

include a variety of additional services such as restaurants, mini supermarkets and stores for vehicle accessories and spare parts. Thus, the number of service stations did not increase as a result of liberalization. In fact, the number dropped from 745 to 731, as the rationalization drive of established OMCs had a stronger impact than the expansionist drive of newcomers, at least in the short run up to 1999.

The retail pump prices are almost identical for all oil companies in the same urban area, the prices of fuel products ex-taxes and duties being closely correlated with international price movements. An analysis was made of the impact of liberalization on the level of retail product prices for the main white products<sup>41</sup>. The result is summarized in the table below.

*Table 4: Kenya Inland Margins. US\$/litre over CIF-Mombasa Reference Price*

	<u>Premium</u>	<u>Jet/kero</u>	<u>Gasoil</u>
Average of 9 months immediately pre-liberaliz.	0.125	0.127	0.126
Average of 2 months immediately post-liberaliz.	0.180	0.171	0.172
Average of first 5 months in 1998	0.157	0.165	0.160

The analysis indicates that oil company total inland margins increased from US\$ 0.13/litre at pre-liberalization to some \$0.18/litre immediately after liberalization in late 1994. There was a major strengthening in the Ksh/\$ exchange rate just at the date of liberalization which did not seem to be reflected in lower Ksh prices, so these high post-liberalization could have been distorted and atypical of the longer term. In 1998, the imputed total inland margin had come down to \$0.16 /litre, i.e still 25 to 30% higher than pre-liberalization. The problem in drawing a conclusion relates to the issue of the adequacy of the margins to cover costs and a decent rate of return during pre-liberalization. That is, whether the OMCs were playing “catch-up” after prices were deregulated? The 1993 Arthur D. Little report on the oil market reported under-recovering by an average of US\$0.025 /litre pre-liberalization<sup>42</sup>. In view of inflation during 1994-98 plus possible small increases in pipeline tariff, local delivery costs and retail margins, the \$0.030 to .035 /litre increase in total inland margins may not be unreasonable.

### **3.4.5 Impact on Rationalization**

The impact of liberalization on the rationalization of activities in the industry – apart from the impact on refining and on product imports– is difficult to ascertain. Lack of market growth may have had just as much to do with it, as witnessed by the fact that a process of rationalization was already ongoing before liberalization.

Rationalization can be witnessed in three areas:

<sup>41</sup> Complete price data from January 1994 through May 1998 and tax data for year 1994 through May 1998 were compared with reference CIF prices, combining Platt’s spot prices with spot freight for the period. This allowed to calculate an imputed “total inland margin”, by subtracting tax and reference CIF from the final retail price.

<sup>42</sup> Page 43 and Appendix D.2

- The closure of retail stations due to lack of business <sup>43</sup> and of under-utilized storage depots <sup>44</sup>. Shell/BP and Total reduced their service stations from 198 to 158 and from 137 to 100 respectively. The other OMCs expanded the number of their stations, but at a lower level.
- Downsizing of personnel through voluntary and sometimes compulsory dismissal with financial severance benefits.
- Increased cooperation between competing OMCs intended to reduce costs through economies of scale through joint investments in infrastructure facilities <sup>45</sup>, company mergers and through voluntary pooling of imports <sup>46</sup>.

### **3.4.6 Policy Conclusions and Recommendations**

Broadly speaking, the hoped for reaction of the market is taking place. The role of the national refinery is being reduced, new investments in import and LPG marketing infrastructure are forthcoming, new players are entering the market providing first signals of increased price competition also in the retail market, and the established OMCs increasingly find ways to reduce costs through cooperative commercial agreements.

Yet, the prospects for more success in encouraging competition under liberalization could have been enhanced by a number of measures prior to liberalization and still pending:

- *More active monitoring and market information dissemination to public;* the extent of data gathering and subsequent use of data appears to be weak.
- *Establishment of legal and regulatory framework through the adoption of a modern Petroleum Act.* Presently, no clear, transparent, immutable rules of the game established.
- *Establishment of truck loading racks at KPC pipeline tankage facilities.* Kenya has the advantage over other countries that it already has most of the elements of a “public utility” style of open access storage in the presence of KPC which should reduce the entry fee of new OMC’s. It must enhance and maximize this storage, however, by establishing truck loading facilities at the main storage break-out points - Mombasa, Nairobi and further downstream at end of the pipeline. More storage, linked to KPC system (independent of KPRL) is also required for finished product importation at Mombasa.

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<sup>43</sup> The Petroleum Market Structure and Pricing Study by Arthur D. Little in 1993 reported 745 service and filling stations. In 1998 the number had dropped to 731.

<sup>44</sup> Following the commissioning of the Western Kenya Pipeline with storage depots at Nakuru, Eldoret and Kisumu, the OMCs closed down their depots Gilgil, Londiani, Nakuru, Eldoret, and Kisumu. Independently of this, the depot at Nanyuki was closed down as well.

<sup>45</sup> In Nairobi Caltex, Total and Nobil operate a joint fuel storage and distribution depot. Total and Agip are putting up additional storage at Mombasa for handling joint imports.

<sup>46</sup> Joint imports of LPG cargos of 700 tons by Shell/BP, Esso and Caltex.

- *Establishment of LPG import handling facilities - with open access status.* This will allow the full product import liberalization to be achieved through removal of protection of a certain minimum crude running in KPRL.
- *Commissioning of nation-wide periodic surveys to generate information on the extent and characteristics of petroleum products demand in small urban and rural centers and areas,* to assist in shaping private sector investment policies and decisions.
- On the basis of the results of these surveys, an *incentive based investment policy should be established for rural areas* in order to encourage investments by the oil marketing companies and local entrepreneurs.



## 4. THE EXPERIENCE OF GHANA

### 4.1 Background Data

Ghana has a 1996 population of 17 million and a per capita GDP of US\$410. National oil consumption in 1997 was 1.2 MTOE having grown at an annual rate of 6.7% during the 1990s.

### 4.2 Pre-Reform Legal-, Regulatory- and Industry Structure

#### 4.2.1 Overview

Prior to liberalization in 1995, the state was directly involved in the petroleum sector through its ownership of three oil companies:

- The *Tema Oil Refinery Ltd* owned and operated the national oil refinery at Tema. Annual processing capacity was about 1 million tons, enough, in principle to cover the national demand for oil products. Tema owned basically all product and crude oil importing facilities.
- The state owned *Ghana National Petroleum Corporation (GNPC)* was involved in oil exploration and had a legal monopoly position in crude oil and product importation / procurement. GNPC did not own storage or import handling facilities, having a pure trading function.
- The oil marketing company, *GOIL* owned and operated in 1990 almost 40 percent of the service stations in the country, and had in 1996 a 19 percent market share of the national sales of oil products.

In addition to GOIL, there were five private OMCs: ELF, MOBIL, SHELL, TOTAL, and UNIPETROL.

The *Ministry of Energy* through its Director of Petroleum was responsible for oil and gas sector regulation and policy setting.

#### 4.2.2 Impact of refinery on policy for liberalization<sup>47</sup>

The operation of the Tema refinery shows the weak and strong sides of Government involvement in the refinery industry. The IDA credit for the modernization of the refinery was put to good use reducing energy consumption from 9% to 6% by weight of crude oil processed. As part of the management improvement, the staff was reduced from 681 to 350. These investments made the hydroskimming refinery economically viable at the end of the project closing. The refinery was nearly balancing the supply and domestic demand of products, providing the best possible

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<sup>47</sup> The information in this section was provided by Mr. Mourad Belguedj, petroleum specialist at the World Bank.

value addition from hydroskimming refinery processing light Nigerian crudes. Yet, the achievement was toppled by uneconomic investments of US\$65 million to expand the capacity from 28,000 to 45,000 BPSD, driven by an unrealistic Government ambition of creating a “Rotterdam of Africa”.<sup>48</sup> The refinery economics now became weak due to a large surplus of naphtha (since the reformer cannot process all of it from the expanded capacity) and of residual fuel. The refinery turned into a money loser, and oil companies who had shown an earlier interest in taking over the refinery, lost their interest in it. Hence Ghana lost a good opportunity for privatising the refinery which was the Government’s declared policy.

### **4.2.3 State investments in distribution**

On the distribution side, the Government invested US\$45 million into a product pipeline, several storage depots, LPG filling plants, etc. For several years, these facilities were lying idle, along with a few IDA financed items, in spite of several complaints from the IDA and the co-financier KfW. The main purpose of this was the Government’s decision to create the new parastatal company, *Bulk Oil Transport Company*. There was no need for this since the oil companies, including the state owned company (*GOIL*), had their own facilities for storage and distribution. Now with BOSO operating as a separate entity, on cost plus tariff, to market the same volume of products, overhead costs have gone up considerably.

## **4.3 Reform Package**

### **4.3.1 Scope of liberalization**

Ghana has been playing delaying tactics on petroleum sector liberalization for several years, violating legal covenants under IDA credits used to finance the modernization of its refinery and the oil distribution system. Ghana partially liberalized its downstream petroleum sector in September, 1996. Importation has been somewhat freed up, but there is still price control.

### **4.3.2 Legal Reforms**

Ghana has no up-to-date, comprehensive, modern Petroleum Supply and Marketing Law governing the sector.

The *Energy Commission Act (Act 541)* is expected to be passed in 1999 and, among other things will formalize licensing provisions, which are now the informal “*Criteria for Operating as an Oil Marketing Company in Ghana*”. The latter are vaguely formulated requiring

- (i) technical competence (technical staff; offsite facilities. e.g. storage tanks; adequate infrastructure to distribute and retail all products including LPG),
- (ii) a minimum starting capital of c1 billion (US\$400,000),

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<sup>48</sup> When the energy sector study was under preparation, the World Bank had looked at the expansion investment, at that time estimated at US\$15 million, but found it uneconomic. Against the Bank’s advice, the Government of Ghana negotiated a contract with Korean contractors with costly financing charges (responsible for the high cost of investment).

- (iii) a bank guarantee for a minimum of c4 billion (US\$1.6 million) to cover two weeks of petroleum products lifted.

No comprehensive legislation exists for *Competition Law*.

Ghana has a comprehensive, up-to-date *Environmental Law*, the provisions of which are administered and enforced by the Environmental Protection Agency(EPA). The EPA is a body corporate existing under Act of Parliament (Act 490 of 1994) with the mandate to initiate and implement programs that would ensure the maintenance of environmental integrity.

#### **4.3.3 Commercialization and privatization of state oil companies**

There has been no privatization of the state owned oil companies.

#### **4.3.4 New Procedures for Procurement of Crude Oil and Product Imports**

The reform in 1996 *eliminated Ghana National Petroleum Corporation (GNPC)'s legal monopoly position in crude oil and product importation/supply*. GNPC can now participate in downstream petroleum operations only on equal footing with the OMCs as a registered, licensed supplier or oil trading company.

A *National Crude Tender Committee* was established comprising Oil Trading companies and local Oil Marketing Companies as members. An application must be made to qualify as a supplier. An estimate of Ghana's total crude oil and product requirements is put together on a quarterly basis and the registered suppliers can bid.

#### **4.3.5 Price control and regulation**

There has been no deregulation of retail prices. A new state company, *Bulk Oil Storage and Transportation Co., (BOST)* will set prices in a sort of floor/ceiling price ("snake") framework. BOST will monitor and publish international market prices and establish and publish a unified ex-depot price throughout the country.

All other downstream petroleum regulatory functions will be in the hands of the *Energy Commission*, soon to be formed.

Staff in the ministry has good capability for effective price assessment and monitoring and will presumably be transferred either to BOST or to the Energy Commission dependent on the role if any the latter is going to have in price monitoring and regulation.

#### **4.3.6 Measures to reduce barriers to entry**

The new company *BOST* is an open-access, public utility for receiving, transporting, storing and truck-loading product stocks owned by the OMC's. This facilitates the entry of new, small-scale operators in the sub-sector. BOST will not own any product stocks itself, but have responsibility for:

- running a network of regional oil product depots, and managing the bulk transport required to replenish these depots;
- monitoring and publishing international market prices as well as establishing and publishing a unified ex-depot price throughout the country;
- holding strategic stocks, owned by the Government of Ghana.

BOST will initially be 100% state-owned and operated by the *state-owned oil marketing company GOIL*, but will be privatized to be a widely-held corporation.

#### **4.4 Security of Supply**

The new state company, *Bulk Oil Storage and Transportation Co.*, (*BOST*) is responsible for holding state owned security stocks. The original intention of the Government was to hold security stocks equivalent to 6-12 weeks of consumption. Cost considerations reduced the security level of stocks to three weeks.

The private OMCs have only limited storage facilities. Licensing requirements do not impose minimum stock level conditions on them.

### **4.5 Results**

#### **4.5.1 Market structure**

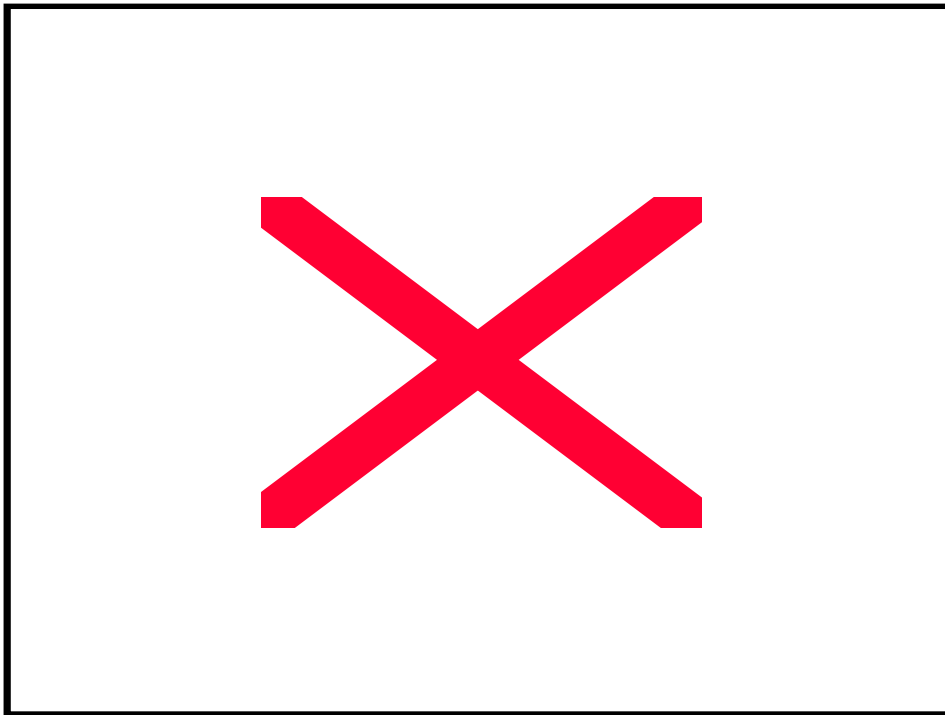
The number of OMC's operating in Ghana had increased from six to eight by 1998.

In practice, there has been no significant change in competitiveness of the structure. There has been insufficient time for the two additional companies, SOCAR Gas and INTER-PETROL to gain any market share. The H-H indices for 1996 and 1997 market shares were 2175 and 2237 respectively, indicating a fairly non-competitive structure. In examining the data on numbers of service stations for 1990 (only data available in Ministry) it is encouraging to note that the market share structure is now theoretically more competitive than the share of service stations in 1990 which had a H-H index of 2666 at that time. This was due to GOIL's ownership of almost 40 percent of the service stations. If GOIL's share of annual sales in 1990 was similar to its share in 1996, then GOIL either had been an inefficient investor or taken upon itself a "public service" obligation of setting up service stations in marginal areas.

#### 4.5.2 Product prices

The analysis of data from 1994 to 1998 indicates that oil company imputed total inland margins are extremely low in comparison with other SSA countries - the lowest that the consultant has seen in some 25 countries visited <sup>49</sup>.

This could be good and bad news: good news for the consumer providing he is being



adequately supplied; bad news if it has led to an extremely low level of new investment, run-down infrastructure, stations ...etc. Judging from the fact that Ghana has twice as many service stations per capita and per 100,000 toe than any of the other three countries, the low margins do not seem to have had a negative impact on company investments. The analysis is summarized in the chart above, which shows an initial jump in margins immediately after liberalization followed by a downward adjustment in margins within a short time.

An anomaly in the data was noted. There are extremely low (even negative) imputed margins for kerosene prior to 1998. This is due to kerosene being effectively cross-subsidized through the refinery gate pricing mechanism (resulting in low refinery gate price, lower than import parity) prior to 1998. Ghana is now, starting in Jan 1998, using a pure import parity pricing mechanism for all products, resulting in imputed inland margins for all products being about at the same levels.

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<sup>49</sup> Complete price and tax data from January 1994 through June 1998. Reference CIF prices were prepared, combining Platt's spot prices with spot freight for the period based on offloading in Tema. This allowed to calculate an imputed "total inland margin", by subtracting tax and reference CIF from the final retail price.

Since petroleum product prices in Ghana have been and are still, in effect, controlled prices no conclusions can be drawn regarding impact of deregulated prices. There hasn't been any.

#### ***4.5.3 Impact on investment***

It was not possible to get explicit information on levels of investment in the sector. Discussions with the Ministry have given indication, however, that there has been an increased level of investment, housekeeping, modernization ..etc. in the retail service station network.

#### ***4.5.4 Public views on liberalization***

According to Ministry staff, the OMCs like the transparency of the import parity system, but complain that the controlled company margins are too low.

## 5. THE EXPERIENCE OF MALI

### 5.1 Background Data

Mali has a population of 10 million. National consumption of oil products in 1997 was 400,000 toe according to official national statistics. The country had no national refinery and imported almost all its oil products from Abidjan and from Dakar.

### 5.2 Pre-Reform Legal-, Regulatory- and Industry Structure

The state-owned petroleum product supply and storage company, PETROSTOCK (L'Etablissement d'Approvisionnement et de Stockage de Sécurité en Produits Pétroliers) was created to hold strategic stocks. PETROSTOCK built a depot at Kayes and had planned one more in Mali-Est.

Mali at the time of reform in 1992 had 60 national “independents” – mainly Malian truck importers - coexisting with the affiliates of four multinational oil companies forming the “groupement des pétroliers, Elf, Mobil, Shell, and Total. The latter had until the late 1980s dominated the market.

Few, if any, qualifications were required for the licensing of operators, which had resulted in a “wild west” style structure. The new national operators who had entered the market enjoyed a profitable and competitive position built on the circumvention of payment of import duties and taxes and disregard for environmental safeguards. There were roadside drum dispensers of fuel all over Bamako (some 300) with open, splash filling of containers from trucks as well as from the drums.

Mali applied a policy of unified national product prices. The “*Office de Stabilisation et de Régulation des Prix*” (OSRP) fixed prices for one year at a time. A price equalization fund eliminated the seasonal fluctuations in prices, and yearly prices were changed infrequently.

### 5.3 Reform Package

#### 5.3.1 Scope of liberalization

The reforms in 1992 involved a mixture of liberalization and the imposition of rules and regulations into an otherwise uncontrolled industrial sector:

- *The State withdrew from all activities of commercial nature* - leaving the sub-sector completely to private operators.
- *Introduction of licensing criteria* for OMCs. The impact of licensing requirements was reinforced in the mid-1990s by the *strengthening of the control of duty and tax collection* through the contracting of a private inspection firm, SGS, (Société

Générale de Surveillance). A final measure was a *more careful administration of tax and duty exoneration*.

- The GOM implemented a *reform of petroleum product pricing*, involving the replacement of the national price structure by a system of indicative prices, the elimination of the price equalization fund and a simplification / streamlining of taxation.

### **5.3.2 Legal reforms**

No new *Petroleum Law* was adopted. The principal legislation governing the downstream sub-sector in Mali was implemented through an *Arrêté-interministériel No 95-2495/MFC-MMEH-MTPT* of the 17<sup>th</sup> November, 1995, fixing the conditions for the importation of petroleum products.

The licensing provisions and the composition of the Commission Technique (see below) are set out in two documents, the *Arrete Interministerial No. 95-2495/MFC-MMEH-MTPT 17-11-95*. and *Instruction Interministerial NO. 98 001/ MICA-MF-MME-MTPT*.

No comprehensive up-to-date *Competition Law* exists. The *Ordonnance 92-21/P CTPS (1992)* deals with some of the issues relating to the institution of “liberté des prix et de la concurrence.”

In 1998 no comprehensive, up-to-date modern Environmental Law existed. The Ministère de l’Environnement is in the process of preparing legal texts.

### **5.3.3 Commercialization and privatization of state oil companies**

The State-owned petroleum product supply and storage company, PETROSTOCK, was dissolved. Its facilities were taken over by private operators.

### **5.3.4 Procedures for procurement of oil products**

In 1992, the procurement of oil products was liberalized. Import competition is stifled, however, by the fact that all importers must purchase through the two main supply axes - Abidjan and Dakar at the same official agreed price loaded into trucks or rail cars, respectively, at each location. Both the SIR refinery, Abidjan and the SAR refinery, Dakar have official posted prices agreed and established for Mali supply. Although these are the two most efficient supply routes, the Malians should have the option to bypass these refineries if they wished to, importing cargoes into Abidjan and Dakar port, respectively. The freedom to acquire products through these ports and not necessarily be tied to the refineries as suppliers is essential to the achievement of further efficiencies in Mali’s petroleum product supply chain. Yet, Cote d’Ivoire and Senegal have always prevented this freedom of supply for Mali although it is confirmed by official state-to-state agreements. Mali has never been able to exercise



this right, because of constraints that are always thrown in the way by officials of the seaborne countries, who want to retain the landlocked countries as captive markets.

### **5.3.5 Licensing of operators**

In 1992, licensing regulations were introduced for operators, which included minimum stock requirements (500 m<sup>3</sup>) and minimum financial qualifications (bank guarantee of 75 million FCFA ~ US\$125,000).

### **5.3.6 Price control and regulation**

The Government introduced deregulation of prices in principle, but not in practice.

*Price controls* and the *price equalization fund* were eliminated in 1992. In theory, the OMCs are free to set their prices at the pumps.

In practice, the GOM, has set up a system of indicative pump prices for ordinary gasoline, kerosene and gasoil, which operators are forced to take literally, whereas the prices for premium gasoline, DDO and fueloil are free. The system of indicative prices was introduced by a protocol signed in January 1997 between the GOM, the Chambre de Commerce et d'Industries du Mali (CCIM) and the chairman of the "groupements pétroliers". Every trimestre, a reference price structure is calculated for petroleum procurement to Mali. A set of reference distribution margins for the operators is agreed upon through consensus, whereafter the indicative pump price is defined. In order to protect the consumer against price fluctuations, the price structure for the cost of distribution is only changed when the cost for individual components in the structure changes by more than 20 percent <sup>50</sup>.

An agreement signed between the GOM and the SIR and SAR refineries in 1989 obliges importers to load trucks at Abidjan and rail cars at Dakar at set, posted prices to all operators.

Regulation of the petroleum industry is divided between several institutions:

- In 1992, the "Office de Stabilisation et de Régulation des Prix" (OSRP) was transformed into a new entity, the "*Office National des Produits Pétroliers*" (ONAP). ONAP is a semi-autonomous body reporting to the *Ministere de l'Economie du Plan et de l'Integration*. The mandate and mission of ONAP is set out in the *M/D 92-009 "Portant Creation de l'Office National des Produits Petroliers (O.N.A.P.)"*. Its duties lie mainly in the area of petroleum product supply policy, supply costs, pricing, strategic stocks and general management of the sector. It has a total staff of 35.
- ONAP has no role in the technical surveillance of petroleum installations re safety and general mechanical integrity ..etc. This is the responsibility of the *Direction*

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<sup>50</sup> It is the company margin (total wholesale + retail) alone which is used as the floating variable element.

*Nationale de la Geologie et des Mines (DNGM)*, which is under the tutelle of the *Ministere de l'Energie et des Mines*. The DNGM, in principle, creates and maintains a dossier on all the individual petroleum storage and service station establishments in the country, to ensure that they are conforming to standards.

- The licensing of operators is in the hands of the *Ministre Chargé de Commerce*, working with the advice of a *Commission Technique*.
- The inspection company *SGS* has been contracted by the GOM to verify import volumes and associated levels of tax/customs duty collection. *SGS* has instituted a rigorous system of documentation and verification.

### 5.3.7 Security of supply

Mali has no security stocks.

## 5.4 Results

### 5.4.1 Impact on industry structure

The adoption of more rigorous licensing regulations for importers, including minimum stock requirements and minimum financial qualifications; resulted in a reduction of number of approved importers. In 1998 there were 28 licensed OMCs operating in Mali comprising 4 multinational affiliates - ELF, MOBIL, SHELL & TOTAL – and 24 private Malian “independents”.

The current<sup>51</sup> market structure appears quite competitive, compared with other countries. The H-H index for 1997 market shares was 1043 in 1997, which is quite low, indicating a competitive structure.

### 5.4.2 Impact on prices

Table 5 compares the price structure prevailing in August 1992 with that for 1<sup>st</sup> quarter of 1997. The *imputed inland margins in US\$ terms declined by more than 50%* from an average inland margin on the three products (premium gasoline, gasoline, diesel) of US\$ 0.40 per litre to US\$ 0.17 per litre.

*Table 5: Imputed Inland Margins, Mali pre-Reform and Post-Reform*

	Gasoline	Kerosene	Gasoil	Gasoline	Kerosene	Gasoil
	F CFA/litre			US\$/litre		
Aug 1992	96	99	94	0,402	0,415	0,393
1 <sup>st</sup> Q1997	91	82	100	0,166	0,163	0,193

<sup>51</sup>There are no figures available for earlier market share structure during the period of 60+ operators; being inefficient, unsafe and fraudulent the market shares during this period are really not relevant in any case. Back in the late 80's and earlier there were only the 4 multinationals sharing the market.

The major devaluation of the FCFA in January 1994, when the FCFA declined from 50/ FF to 100 /FF, affects and distorts this comparative analysis. *In FCFA terms the imputed margins remained about the same*, declining for gasoline and kerosene but going up for gasoil. As a result, in 1997 there was a greater *difference in the margin* among the three products.

An comparative analysis of the official and later, indicative, price structures during the period shows that the *transportation elements* of the inland margin was inflated by 10 to 20% in FCFA terms. The *company margin* (combined wholesale and retail) declined in FCFA terms over the period, see table 6 below.

*Table 6: Company Margins, Mali pre-Reform and Post-Reform*

	Gasoline	Kerosene	Gasoil	Gasoline	Kerosene	Gasoil
	F CFA/litre			US\$/litre		
Aug 1992	51	49	43	0.20	0.20	0.17
1 <sup>st</sup> Q1997	43	22	33	0.08	0.04	0.06

By whatever means the GOM has been able to achieve this squeeze on company margins, the Malian consumers have surely benefited.

### **5.4.3 Impact on investment**

It was not possible to get explicit information on levels of investment in the sector. The information can be summarised as follows:

- In the last 4 - 5 years there has been active development of new, modern service stations in the main urban centres of Mali
- There is a plan to construct a new depot at Sikasso in the interior with Banque Islamique financing.
- The multinationals are planning the construction of an aviation fuels depot at Sénou.
- It appears that the MOBIL depot in Bamako may be replaced by a modernized, expanded one located outside of the built-up city proper.
- In addition to this there are plans for a new 10 000 M3 depot on the outskirts of Bamako.

### **5.4.4 Tax/customs collection**

With the measures instituted by SGS as well as a tightening up of the tax/duty exonerations Mali appears to have a much improved collection situation. The GOM feels that tax/customs fraud has been significantly reduced; and that collections are now some 96-97% of what they should be. This compares with 70 to 75% not long ago.

Those end users of petroleum products who are entitled to exonerations must now pay all the normal tax and then apply to the GOM-Treasury to be reimbursed. A practical confirmation of this success is the 47% increase in tax collection 1997 over 1996.

## **6. THE EXPERIENCE OF UGANDA**

### **6.1 Background Data**

Uganda has a population of 19 million and a per capita income of US\$190. The low per capita income is reflected in the oil consumption per capita, which is a low 19 kilos. Reflecting the low level of consumption, Uganda has only 15 service stations per 1 million inhabitants. Annual oil consumption was 0.4 million tons in 1996 and was growing at 5.5 percent per year during the 1990s.

### **6.2 Pre-Reform Legal-, Regulatory- and Industry Structure**

Prior to liberalization in 1994, there were six oil companies operating in Uganda: four multinationals - Shell, Total, Agip, Caltex, - and two national companies - UPET (bought by Shell in 1996), and Gapco (bought by Esso in 1994).

The state held a 50 percent share in three oil companies - Shell, Agip and Total, - and owned and operated the Jinja strategic storage facility at lake Victoria <sup>52</sup>.

### **6.3 Reform Package**

#### **6.3.1 Scope of liberalization**

*Privatisation:* Uganda began its policy in 1993 with the divestment of the Government held shares in Shell. This was followed in 1996 by the divestment of the Government's shares in Total and in Agip.

*Elimination of price controls:* Effective January 16, 1994, the Government deregulated the retail price of petrol, kerosene and diesel. This followed the elimination of foreign exchange controls in November, 1993.

#### **6.3.2 Legal reforms**

Uganda liberalized its downstream petroleum sector in January 1994 without having an up-to-date modern *Downstream Petroleum Law* governing the sector. It still has no law some five years after the liberalization. The only law in effect at the moment which relates to the downstream subsector is the Petroleum Act of 1957. Sections include "The Petroleum Spirit (Conveyance by Road) Rules" and "The Petroleum Spirit (Licensing, Possession and Testing) Rules", with amendments through 1964.

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<sup>52</sup> Three storage tanks of 10,000 m<sup>3</sup> for diesel, gasoline and kerosene.

No legislation exists in the form of a *Competition Law*.

In 1995 Uganda adopted a comprehensive, up-to-date Environmental Law. The National Environmental Management Authority has developed typical tools such as required Environmental Impact Assessment process for industrial/infrastructure projects.

### **6.3.3 Responsibility for regulation**

The *Ministry of Energy and Minerals (MEM)* is, in principle, responsible for monitoring and regulatory aspects of the sub-sector. The MEM screens license applications to operate in the downstream sector from a technical standpoint in the, in accordance with a set of “Guidelines”. A recommendation from MEM is then passed on to the *Ministry of Trade, Industry and Tourism* which is responsible for issuing a license.

The MEM has the technical oversight of license-granting process, using the Guidelines.

### **6.3.4 Procurement**

The oil companies import finished products through two ports: Mombasa in Kenya (70% of supply Dar es Salaam in Tanzania (30%). The OMCs respective offshore trading companies usually act as suppliers. Because of the relatively small size of the Ugandan market, the products are imported on General Purpose vessels (20-25,000 tons) on two-port discharge voyages; or in one port-cargoes with other oil companies<sup>53</sup>. For the most part, the sister companies of the Ugandan oil companies in Mombasa and Dar es Salaam provide storage terminals for the received products.

### **6.3.5 Security of supply**

MEM has a role in the administration of the Government’s strategic stocks of petroleum products at Jinja. The original objective was to have stocks equivalent to 90 days of consumption, but cost considerations reduced the goal to 20 days. The government’s ownership of the storage facilities is expensive for various reasons. An efficient operation of any product storage facility requires that the stored products are completely turned over every six months to ensure adequate product quality. The turn-over at Jinja involves only one-half of the stored volume, mainly because the market in Jina area is too small to facilitate an adequate turn-over. Because of

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<sup>53</sup> This type of ocean freight is slightly more costly than shipping products on one-port discharge voyages. However, this higher ocean freight cost (US\$1.50-2.50/t before AFRA adjustment or an average of about US\$3.00/t after adjustment) must be balanced against the lower cost associated with a smaller amount of working capital tied up in inventories. A calculation of the cost differences in “Uganda. Energy Assessment”. December 1996 by the World Bank shows the advantage of using fully loaded GP vessels rather than using part-cargoes for the replenishment of products to be 0.11-0.15 UScents/litre.

haphazard turn-over, Jinja's product losses are high, worth about US\$100,000 per year or about 10 times the economic level<sup>54</sup>.

The licensing of OMCs imposes no obligations to hold security stocks.

### **6.3.6 Price control**

Petroleum prices were deregulated in 1994, and are no longer subject to Government approval.

The MEM intended to establish a monitoring system prior to liberalization, but this was never achieved. Very little meaningful monitoring is done. There is no requirement to post prices at service stations and no surveying of actual prices.

The MEM collects data on sales and imports. When the MEM needs information on a reference basis for supply costs it depends on an old costing basis, using Platt's and other offshore factors, that customs staff calculate.

### **6.3.7 Quality control**

The government does not oversee that the quality of products sold in the country conform to established standards. There is no laboratory in the country capable of undertaking tests of petroleum specifications. Such tests can be handled by the laboratory of the Mombasa and Dar es Salaam refineries.

### **6.3.8 Measures to lower barriers to entry**

No specific measure were adopted by MEM.. But the anti-smuggling unit of the Uganda Revenue Authority made considerable strides in curtailing petroleum smuggling at the eastern border. Prior to liberalization smuggling was estimated to amount to about 10 percent of national consumption.

## **6.4 Results**

### **6.4.1 Impact on industry structure**

There are now seven OMC's operating in Uganda, a slight change since pre-liberalization, when there were six. Within these numbers, there has been a qualitative shift:

- One Ugandan company, Upet, with some 7% of market share in 1994 was acquired by one of the Multinationals – Shell; the other, Gapco, by Esso in 1996.
- two new “independents” entered the market but have had no significant impact yet in terms of market share.

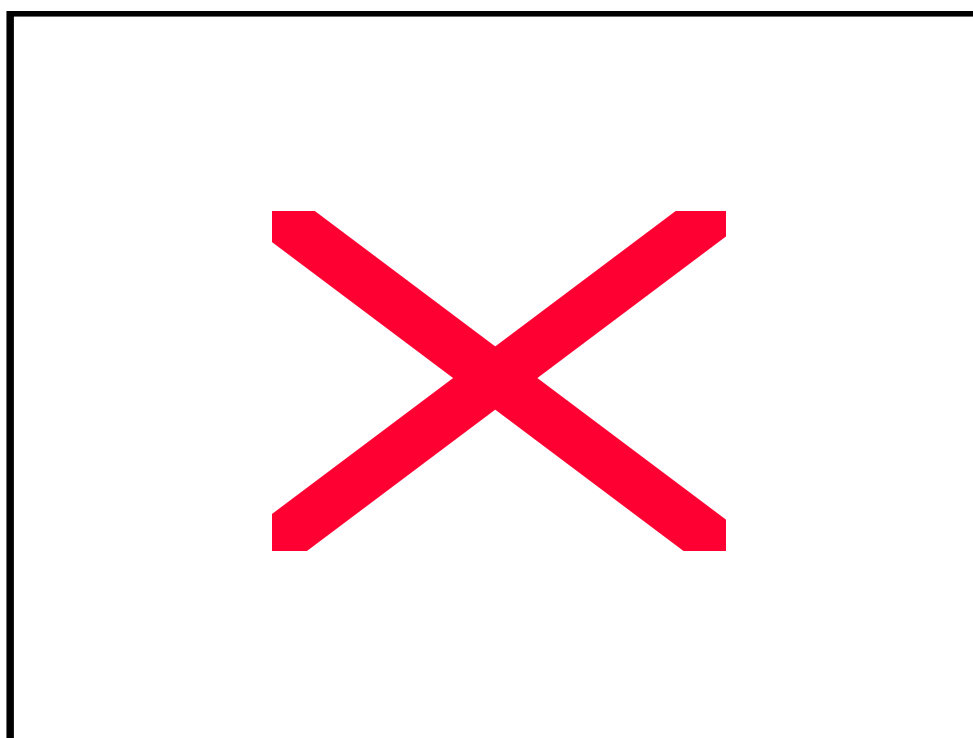
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<sup>54</sup> Source: World Bank: "Uganda Energy Assessment", December 1996.

The industry, therefore at the time of liberalization was highly concentrated and, though slightly less concentrated in numbers, is now more concentrated in terms of market shares. The H-H index increased from 2424 to 2557. The number of service stations - an indication of how the market may look in 3 or 4 years - sees an increase in concentration, with H-H index increasing from 1800 in 1996<sup>55</sup> to 2200 in 1998, mainly because of Shell's purchase of UPET.

#### **6.4.2 Impact on prices**

An analysis has been made of the development in retail prices from December 1993 through June 1998 compared with calculated reference data to reflect the development in landed cost CIF<sup>56</sup>. The result is shown in the chart below.



The analysis indicates that oil company total inland margins increased considerably: from pre-liberalization in the range of US\$ 0.24/litre to in excess of \$0.30/litre immediately after liberalization in early-mid 1994. This is reflected in the initial jump in the chart. But, as with Kenya, there was a major strengthening in the Ush/\$ exchange rate just at the date of liberalization, which did not seem to be reflected in

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<sup>55</sup>Figures for 1994 service station picture were not available but apparently there was no significant change 1994-1996 - and we received figures for the latter.

<sup>56</sup> Reference CIF prices were prepared, combining Platt's spot prices with spot freight for the period. These are based on offloading in Mombasa as the most utilized coastal supply point. This allowed the calculation of an imputed "total inland margin", by subtracting tax and reference CIF from the final retail price. The bulk transport from the coast (e.g. Mombasa) is quite costly so the total imputed inland margin will be quite high, compared with Kenya, for example. No data has been obtained to permit to break out the margin elements but the most important aspect, in any case, is the movement in the total imputed margin over time.

lower Ush prices, so these high post-liberalization prices could have been distorted and atypical of the longer term.

Later on, in 1996 the imputed total inland margin was lower at some \$0.26 /litre, on average for the year, i.e some 10% higher than pre-liberalization (see graph). The average imputed margin has been some \$0.30/litre since liberalization, some 25% higher than pre-liberalization. The average imputed margins during the first 6 months of 1998 was some \$0.34/Litre or 40% higher than pre-liberalization. Even corrected for inflation these margins are much higher than during the controlled period.

As with Kenya, the problem in drawing a conclusion regarding the significance of this, is the adequacy of the margins to cover costs and a decent return pre-liberalization, i.e were they playing “catch-up” after the prices were deregulated? Neither the Government nor the industry representative who were interviewed could provide data to substantiate this.

### **6.4.3 Impact on investment**

It was not possible to get explicit information on levels of investment in the sector; there is no one collecting information such as this. Discussions with the Ministry and one OMC representative (TOTAL) have given indication, however, that there has been an increased level of investment, housekeeping, modernization ..etc. in the retail service station network. The TOTAL official indicated that they were rationalizing their service station network, closing some older, low-volume outlets while adding an average of about 3 new, modern stations per year.

Both the TOTAL official and Ministry people feel that the attention to Health Safety Environment (HSE) has been improved. Although there is a joint Government-Industry HSE Management Group (MEM and NEMA are members) the verification of results seems to be wholly in the hands of the Industry - they have “HSE Officers” in each OMC.

### **6.4.4 Views on liberalization**

MEM/GOU view and general view of public is that liberalization has provided little benefit to the consumer and nation as a whole. They feel that there is “overcharging” - that prices are now higher in relation to procurement costs, that the OMC’s are quick to raise prices in response to cost increases, but slow to reduce in face of reducing supply costs.

The Government has officially expressed its concerns about the situation in the “Background to the Budget” MOFPED June 1998. “Government intervention is required to avoid oligopolistic behaviour by the oil companies”.



#### **6.4.5 Constraints to success of liberalization – steps to improvements**

The prospects for more success in encouraging competition under liberalization could have been enhanced by a number of measures prior to liberalization and still pending:

- More active monitoring and market information dissemination to public; data gathering and subsequent use of data appears to be nonexistent
- Establishment of legal and regulatory framework - no clear, transparent, immutable rules of the game established.
- There have been practically no new entrants - a net gain of one since liberalization. Apparently license applications take forever to get a response - they become “buried in the system”.
- Regional cooperation for the development of petroleum transport infrastructure:
  - One possibility looked into was the construction of 330 km KPC pipeline extension from Kenya into Uganda. A feasibility study concluded that development of this would be very positive for Uganda. Not only would it reduce bulk supply cost to the country but it could lead to a “public utility” style of open access storage with truck loading which should reduce the entry fee of new OMC’s. However, the pipeline would cost about US\$150 million to supply about 350,000 MT per year of products to Uganda.
  - In Kisumu at the Victoria lake side, KPC has a very good depot at the pipeline terminal. If a barge loading jetty is constructed, estimated to cost about US\$3 million, products could be delivered to the existing storage terminal in Ginga (not even half used at the moment), which has large unloading facilities.

The lake facility could be used, through privately owned barges, for Uganda, North Western Tanzania, Rwanda, Burundi, and Eastern Congo (about 550,000 MT per year). At the moment, products are moving by road to all these places by costly road transportation. KPC, however, does not want to undertake this investment before the pipeline has been financed, since there is no justification for it, if the lake transportation is already established. As a result, nothing is happening, except unsafe transportation in make-shift barge loading arrangements<sup>57</sup>.

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<sup>57</sup> Point made by Mr. Thuvara S. Nayar, World Bank.

## **7. OTHER COUNTRY EXPERIENCES**

### **7.1 Philippines<sup>58</sup>**

#### **7.1.1 Situation before deregulation**

The experience of the Philippines illustrates the importance of economic growth and the associated oil demand growth for successful liberalization of the petroleum industry.

The Philippines deregulated the petroleum industry in 1998. At that time, the Philippine oil market was served by three major oil companies – Saudi Aramco, Petron Corp., and Texaco-Caltex Philippines. Prices were subject to approval by the Energy Regulatory Board, ERB.

#### **7.1.2 Entry of new players**

A total of 53 new firms have invested in the country since deregulation including Totalfina from France, Petroleum Authority of Thailand, Coastal Petroleum from the USA, Petronas of Malaysia, and Liquegas from the Netherlands.

The new players have captured 8.6% of the market by end 1999.

#### **7.1.3 Impact on investment**

As of November 1999, the new companies had invested more than P10 billion (=US\$250 million) in the downstream oil industry in such areas as bulk storage, petroleum gas refilling and retailing. Another P33.5 billion (US\$830 million) are scheduled to be invested over the next five years to develop bulk fuel marketing, bunkering of fuel, retailing, LPG marketing, storage and refining<sup>59</sup>.

#### **7.1.4 Decontrol of prices**

Recent fuel price increases triggered protest actions, with one militant labour group spray-painting the buildings of two local firms. Amid calls on government to re-impose some form of control on prices, the Philippine President Mr. Estrada called on the oil companies to withhold an increase in oil prices for three months. This led to angry reactions from in particular the new players, who claimed that due to their new investments, it was more difficult for them to sustain operating losses during a period than for the established oil companies. In fact, under the regulated regime, the ERB would have had to authorize the needed price increases as the two criteria justifying the oil price hike – oil import price and peso/dollar exchange rate were fulfilled. Even when oil companies started raising their prices early February, the price increase was still below the level, which would have been authorized under the ERB formula.

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<sup>58</sup> Source of information: Newspaper clippings from Philippine newspapers during January and February 2000.

<sup>59</sup> Information provided by Energy Secretary Mario Tiaoqui at a press conference on February 3, 2000.

### **7.1.5 Plans for a petroleum exchange**

That the oil companies hesitate to adopt justified price increases is due to the existence of a strong political opposition in Congress against the liberalization of the downstream petroleum industry. A bill has been proposed in Congress to establish a Philippine Oil Exchange. The OilEx will receive and store the refined petroleum products it will acquire from the lowest winning bidder and sell at the same cost to all local wholesalers and distributors. Part and parcel of the bill is for the OilEx to take over and operate all ocean receiving oil terminals and storage depots in the country, subject to constitutional and legal requirements. Originally the proponents argued for the OilEx to be state owned non-profit organisation. But they will also accept a non-profit private corporation with representation from various sectors, such as consumer groups, transport groups, workers and farmers, cause oriented groups, oil companies and government.

The proponents argue that opening up the local oil industry to the lowest bidders will attract at least 40 international refineries and traders to participate in the Philippine market. They argue that this would protect the Philippines against price manipulation by the major oil players, and reduce import prices. Opponents criticise that billions of government funds are needed to capitalize the OilEx, and being dependent on the spot market for products it will make the Philippines more vulnerable to the volatility of price and supply in the international market.

## **7.2 Ethiopia**

### **7.2.1 Background information**

Ethiopia represents the opposite spectrum of a very initial stage of liberalization.

Annual oil consumption is slightly above 1 million tons. Until 1997, Ethiopia imported both crude oil and refined products. Refined products were imported through the ports of Massawa in Eritrea and Djibouti. The crude was refined at the Eritrean port of Asseb and moved by road to destinations in Ethiopia. Refining at Asseb stopped in 1997.

The state-owned Ethiopian Petroleum Enterprise (EPE) has a monopoly on the import of petroleum products. The retailing is in the hands of the transnational oil companies Shell (33%), Mobil (30%), Agip (19%) and Total (18%).

The 465 retail outlets are very unevenly distributed among the 11 provinces, called regions in Ethiopia. 5 regions account for 92% of the total. Within these regions most are found in urban areas.

### **7.2.2 Price setting and regulation**

Prices of petroleum products are subject to regulation by the Government. In addition to controlling prices, the Government (through EPE) has the monopoly for importing petroleum products.

In 1996, the government adopted a procedure of fixed biannual revisions of the prices of petroleum products; before, they were adjusted infrequently. The Ministry of Trade and Industry is mandated to do the analysis related to the pricing of petroleum products, which is done on the basis of the cost-plus margin approach. The results from the Market and Price Study Division for the Addis Ababa price build-up are submitted to the Council of Ministers for approval and adoption. The prices are then translated by MTI into a set of retail prices for the rest of the country, through a set of adjustments for transport costs in the region based on distances and conditions of roads in the different regions.

The Addis Ababa build up and other pricing elements is provided by EPE. For each refined product, EPE arrives at an “invoice price” made up of a forecast import cost (“ex-refinery” price), government taxes and levies, price stabilisation component and its own margin. The product is sold to the retailing company at this invoice price, to which the company adds its own distributor’s margin to make up the total retail price. The EPE uses an “exponential smoothing model” for its price forecast: actual prices for the last six month are used giving higher weights to prices in the recent past.

The Government abolished in 1996 its control over road tariffs, and ordered the Road Transport Authority to liquidate associations of transporters, which, if allowed to operate, would lead to monopolistic conditions. Thus, the Government regulates the

“invoice price” and the final retail price. What happens in between is determined by market forces.

A *stabilization fund* of about 3% of the final prices of all products was introduced in 1997. It covers losses EPE may suffer because of subsidies on kerosene and LPG and fluctuations in international prices.

### **7.2.3 Subsidization of EPE**

One form of subsidization the government used for supporting the activities of EPE was to provide foreign currency at preferential exchange rates. This practice stopped in 1997.

### **7.2.4 Licensing conditions – ease of entry**

To qualify for entry a new operator must set up at least six filling stations and have a minimum capacity of 5,000 cubic meters. A three-pump filling stations costs approximately US\$85,000; a three-pump filling/service station US\$100,000.

## **7.3 Senegal<sup>60</sup>**

### **7.3.1 Background data**

Senegal consumes roughly one million tons of oil products per year, of which 37% in the form of heavy fuel oil, 29% gasoil, 20% kerosene, 7% gasoline and 7% LPG. In addition, 300.000 tons of oil products are exported to neighbouring countries. Demand grew 2.6% per year during the 1990s with LPG supported by government subsidies growing at an annual rate of 14%.

The SAR refinery in Dakar, constructed in 1963, with a nominal capacity of 1,2 million tons per year was entrusted with the monopoly for importing crudes and oil products. The refinery activity has not been internationally competitive during the last 20 years. At the end of the 1980s, when refining was offered at US\$1.5 per barrel at international level (partly due to international over-capacity bringing costs close to marginal costs), the SAR (average) cost of production was US\$5 per barrel. During the 1990s, SAR received a state operating subsidy of US\$2.3 per barrel.

The oil companies operating in Senegal were grouped in two organisations. The GPP (Groupement professionnel de l'industrie du pétrole) comprised the four international companies, which owned SAR : Elf, Mobil, Shell and Total. They controlled 95% of the market (Shell 39%, Total 23%, Elf 21% and Mobil 14%). The other, group, ASPP (Association sénégalaise des professionnels du pétrole), represented the seven independents oil companies, which purchased their products from SAR. They were owned by Senegalese investors.

The infrastructure for the storage, marketing, transport and distribution of oil products was adequate:

- Senegal had 250 service stations for road transport and 80 pump stations located on the beaches for the fishing boats.
- The SAR refinery has storage tanks of almost 170,000 m<sup>3</sup> for crude oil; its storage capacity for final products is limited. For the latter, there are seven storage depots in the region of Dakar with a total capacity of 330,000 m<sup>3</sup>. Six are operated by companies owned by the four GPP companies, one by an independent investor.
- The 266 road tankers were owned by 12 independent transport companies, who were licensed by the Government.

### **7.3.2 Scope of liberalization**

Law 98-35 of April 17, 1998 introduced four major changes:

- SAR's monopoly for importing crudes and oil products was abolished.
- All oil distributors were given free access to the storage depots in the country. This measure was intended to facilitate imports, exposing SAR to genuine competition.

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<sup>60</sup> The presentation is totally based on information in the 1999 official strategy document: "Le Secteur de L'Energie au Sénégal".

- The system of price setting and approval was rationalized, with the intention to gradually eliminate the cross-subsidization of some products, in particular LPG.
- The operating subsidy given to SAR is to be eliminated stepwise over a period of five years.

### **7.3.3 Regulation of prices**

The original price setting mechanism is defined by the convention leading to the creation of SAR in 1962.

Prices are adjusted three times per year through a joint decision by the Ministry in charge of Energy and the Ministry of Finance, on the basis of the conclusions from a specialised committee, which is convened three times per year. The prices for oil products were uniform throughout the country.

The 1998 law replaced the previous fixed prices by *maximum prices*; operators are free to adopt lower prices. The maximum prices are revised at four weeks intervals. In intention is to deregulate prices in the long term; the maximum prices are a step in that direction. Maximum prices are defined separately for transport prices and for distributor's margin.

Prices of petroleum products are subject to three taxes: import duty, VAT and a so-called "special tax". The latter, which before 1998 was called "stabilisation fund" is used to promote specific policy objectives of the government. The latter used to include subsidization of LPG and of fuels used in electricity production (to support electrification).

### **7.3.4 Licensing**

Oil companies in Senegal require a license to operate. The license is granted by the Ministry responsible for downstream petroleum products upon review of the application by the Comité National des Hydrocarbures, a consultative organ created by the 1998 law. The Comité is composed of representative from a number of public institutions. Four licenses are issued:

- The *license for importing petroleum products* is issued for five years at a time. Licensees are required to import at least 20,000 tons of petroleum products (for LPG only 1500 tons) and to contribute to the building of security stocks.
- The *license for storage of oil products* is issued for 15 years at a time. Licensees are required to establish storage capacity of at least 15,000 tons and to provide access to the storage depots on non-discriminatory terms to all oil importers and oil distributors.
- The *license for oil distribution* is issued for a period of 10 years at a time, with right of extension if the licensee has complied with the terms of his license. Licensees are required to set up at least five service stations within a period of five years. If they do not hold an import license, they must have a contract with an importer

- The *license for transport of oil products* is issued to transporters having a fleet with a tank capacity of 100 m<sup>3</sup> and complying with the technical norms. The subject is given for five years at a time with right to extension if the license terms have been complied with.

### **7.3.5 Security stocks**

Each importer must maintain security stocks equal to 35 days of his imports during the last 12 months. If the importer does not have storage capacity himself, he must have a contract for the storage.

### **7.3.6 Elimination of subsidies**

The 1998 law stipulates the stepwise phasing out of the previous subsidies given:

- (i) to SAR, which until 2007 will get a subsidy equivalent to 15% on import parity for white products and 5% for black,
- (ii) to fuel consumption for power production and
- (iii) to LPG over a four year period ending in 2002.

The uniform national retail prices are maintained. That is, the subsidy for transport is kept.



## 8. ANNEXES

### 8.1 Summary Tables

#### 8.1.1 Kenya

#### KENYA OMC MARKET SHARES BEFORE AND AFTER LIBERALIZATION AND CORRESPONDING HERFINDAHL- HIRSCHMAN INDICES

		MARKET SHARES	
		<u>1992</u>	<u>1996</u>
1	AGIP	13.0%	12.5%
2	CALTEX	17.0%	18.6%
3	MOBIL (ESSO IN 92)	15.0%	14.3%
4	KENOL	6.0%	4.2%
5	KOBIL	5.0%	9.4%
6	SHELL/BP	29.0%	26.3%
7	TOTAL	15.0%	14.7%
8	JOVENNA		0.0%
9	NOCK		0.0%
10	FUELEX		0.0%
11	MAFUTA		0.0%
12	ECO-HOLDINGS		0.0%
13	GALANA		0.0%
14	ENGEN		0.0%
15	VISION		0.0%
16	TRIFOIL		0.0%
17	PARAFFINA PP		0.0%
	Total	100.0%	100.0%
	H-H Index	1810	1720

#### SHARES IN TOTAL NUMBERS OF SERVICE STATIONS

		<u>1992</u>	<u>Mar1998</u>
1	AGIP	11.4%	12.3%
2	CALTEX	14.0%	15.3%
3	MOBIL (ESSO IN 92)	15.4%	17.8%
4	KENOL	5.2%	7.3%
5	KOBIL	9.0%	10.9%
6	SHELL/BP	26.6%	21.6%
7	TOTAL	18.4%	13.7%
8	JOVENNA		0.7%
9	NOCK		0.4%
10	FUELEX		
11	MAFUTA		
12	ECO-HOLDINGS		
13	GALANA		
14	ENGEN		
15	VISION		
16	TRIFOIL		
17	PARAFFINA PP		
	H - H INDEX(on numbers)	1716	1530

### CHANGES – INTRODUCED BY LIBERALIZATION

	IMPORTATION/ SUPPLY	PETROLEUM PRODUCT TRANSPORT	PRODUCT PRICES
<b>BEFORE</b>	1) Oil Marketing companies (OMC's) obliged to supply all their white oils by processing crude at KPRL refinery; 2) NOCK given 30% crude oil supply quota for refinery	1) Mandatory to use the KPC Mombasa-Nairobi - Kisumu pipeline ; 2) road transport tariffs controlled.	Controlled
<b>AFTER</b>	1) OMC's are free to import directly or buy from KPRC; 2) NOCK's 30% crude quota eliminated – must freely compete for import and distribution business	1) OMC's can use whatever transport mode they wish - not mandatory to use KPC; 2) road transport tariffs decontrolled.	Decontrolled

#### Classification by type of ownership of oil companies operating in Kenya in 1998

Foreign Capital:	Agip, BP, Caltex, Shell, Mobil <sup>1)</sup>
Kenyan private capital:	Kenol
Kenyan private capital, incorporated in the USA:	Kobil
Joint venture between foreign and Kenyan private capital:	Total
State owned:	KPC, NOCK
Joint venture between Kenyan Government and foreign capital <sup>2)</sup> :	KPRL

1) ESSO transferred in 1996 its marketing assets to Mobil. 2) Shell, Caltex, Mobil and BP.

Source: AFREPEN, 1998, pp. 28

#### 8.1.2 Ghana

#### GHANA OMC MARKET SHARES IN 1996 AND 1997 AND CORRESPONDING HERFINDAHL- HIRSCHMAN INDICES

		<u>1996</u>	<u>1997</u>
1	ELF	19.0%	19.6%
2	GOIL	19.6%	18.6%
3	MOBIL	24.1%	23.5%
4	SHELL	28.3%	30.5%
5	TOTAL	6.7%	4.3%
6	UNIPETROL	2.3%	3.0%
7	SOCARGAS	0.0%	0.0%
8	INTERPETROL	0.0%	0.5%
	TOTAL	100.0%	100.0%
	H-H Index	2175	2237

### SHARES IN TOTAL NUMBERS OF SERVICE STATIONS, 1990

		Numbers	Shares
1	ELF	205	20.6%
2	GOIL	387	38.9%
3	MOBIL	126	12.7%
4	SHELL	232	23.3%
5	TOTAL	44	4.4%
6	UNIPETROL		0.0%
7	SOCARGAS		0.0%
8	INTERPETROL		0.0%
	TOTAL	994	100.0%
	H-H Index		2666

### 8.1.3 Mali

				MALI 1997	
				Market Share	H - H INDEX
1	BEN & CO		17.2%	297	
2	ETS COUL		2.8%	8	
3	ETS DARH		0.6%	0	
4	ETS DIONKE		1.6%	3	
5	S N'DIA YE		5.3%	28	
6	TAJI-MALI		2.9%	8	
7	SIP SAHEL		1.8%	3	
8	ETS YATTAS		2.9%	8	
9	ZOU TRAORE		13.3%	176	
10	SAD OIL		1.0%	1	
11	SODIES		4.7%	22	
12	SOAKOF		0.1%	0	
13	PETROSY		1.1%	1	
14	STE CGM		0.9%	1	
15	MASEDA INT		0.0%	0	
16	SOGEPE		3.6%	13	
17	ELF		16.7%	280	
18	MOBIL		6.4%	41	
19	SHELL		6.8%	46	
20	TOTAL		10.3%	107	
	<b>TOTAL</b>			<b>1043</b>	

### 8.1.4 Uganda

#### UGANDA OMC MARKET SHARES BEFORE AND AFTER LIBERALIZATION AND CORRESPONDING HERFINDAHL- HIRSCHMAN INDICES

		<u>1994</u>	<u>1998</u>
1	AGIP	9.0%	6.9%
2	CALTEX	12.0%	20.0%
3	GAPCO (Esso in 94)	10.0%	12.3%
4	SHELL	39.0%	38.1%
5	TOTAL	23.0%	22.5%
6	UPET	7.0%	0.0%
7	GALANA	0.0%	0.2%
8	JOVENNA	<u>0.0%</u>	<u>0.0%</u>
	TOTAL	100.0%	100.0%
	H-H Index	2424	2557

#### SHARES IN TOTAL NUMBERS OF SERVICE STATIONS

		<u>1996</u>	<u>1998</u>
1	AGIP	13.4%	13.3%
2	CALTEX	25.7%	25.5%
3	GAPCO (Esso in 94)	14.8%	14.7%
4	SHELL	18.7%	30.4%
5	TOTAL	15.5%	15.4%
6	UPET	12.0%	0.0%
7	GALANA	0.0%	0.3%
8	JOVENNA	<u>0.0%</u>	<u>0.3%</u>
	TOTAL	100.0%	100.0%
	H-H Index	1790	2206

## **8.2 Documentation consulted for the Study**

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### *Kenya:*

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"Protocôle d'Accord entre le Ministre des Finances et du Commerce du Mali et les Présidents des Groupements des Opérateurs Pétroliers Agréés du Mali"

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W. Matthews: "Draft Final Report. Drafting of Law and Regulations for the Petroleum Product Market in Tanzania". August 1999

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The NEMA Mandate

The Petroleum Spirit (Conveyance by Road) Rules

World Bank: "Uganda Energy Assessment" December 1996

## **8.3 Visits and Interviews**

### **Kenya**

#### Ministry of Energy

Mr. S.W. Ndindiri	Deputy Secretary, phone 254 2 330048
Mr. P.M. Nyoike	Chief Economist, phone 254 2 330048
Mr. Ng'ang'a Munyu	Sr. Economist, (and officer in charge) Petroleum Monitoring Unit; phone 254 2 244211, fax:254 2 240910
Ms. Jane Akumu	Sr. Economist, Petroleum Monitoring Unit

#### Other

Kenya Central Bank Publications Office  
Government Bookstore

### **Ghana**

#### **People Met, Accra, October 25 - 27 - 1998**

#### **Ministry of Mines & Energy**

Mr. Isaac C. Tagoe	Director, Petroleum, phone: 233-21 666520, fax: 668262, mobile phone: 024-314146; E-M: energy1@ncs.com.gh
Mr. Daniel Amoah	Technical Wing, Principal Programme Officer, Petroleum Planning & Monitoring Programme; phone: 667151-3 fax:668262, mobile: 024-319243; E-M: energy@ncs.com.gh

### **Mali**

#### **People Met, Bamako, October 27 - 30, 1998**

#### **Ministère des Mines et de l'Énergie**

M. KEITA, Seidou	Engineer, Direction d'Hydraulique et de l'Énergie; phone (223) 213342
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**Office Nationale des Produits Pétroliers**

M. Birama DIALLO            Directeur General, phone (223)222827, 224959  
Mme TAPO Touga NADIO    Directrice Générale Adjointe  
M. Ibrahima DANSOKO      Département Technique  
M. Zoumana DIAKITE        Division des Etudes Statistiques

**Uganda**

**People Met, Kampala, October 22, 23 - 1998**

**Ministry of Energy & Minerals**

Mr. Ben J. Twodo            Assistant Commissioner/Petroleum Supplies, phone:  
256 41 257863, fax: 230220  
Mr. Patrick Muhumuza      Principal Petroleum Officer, phone: 256 41 230926

**Uganda Revenue Authority**

Mr. Enoch Okanya           Deputy Commissioner, phone: 256 41 236787  
Mr. George Baayenda Oil Desk Officer, Customs

**Total Uganda Limited**

Mr. Jimmy Opio             Project Coordinator, phone: 256 41 231331



#### **8.4 OAR CAPITAL CITY PUMP PRICES AT 31 AUGUST 1998**

<b>Mogas (Local Currency)</b>	<b>Bots</b>	<b>Ken</b>	<b>Les</b>	<b>Malawi</b>	<b>Mozamb</b>	<b>Nam</b>	<b>RSA</b>	<b>Swaziland</b>	<b>Tanzan</b>	<b>Zambia</b>	<b>Zim</b>
Product Basic Cost	70.91	8.96	93.30	6.389	1,361	66.10	87.42	101.33	169.77	461.73	339.00
Transport, Service Differential.	6.00	1.77	6.20	0.000	39	16.90	5.10	6.50	4.00	49.76	0.00
Govt. levies, duties, taxes	25.49	22.36	77.00	4.319	3,982	77.70	105.50	63.61	199.28	435.90	145.00
Oil Company margin (rounded)	15.10	4.94	15.50	1.401	776	18.30	16.28	15.50	30.95	65.03	51.00
Dealer Margin	14.50	1.89	16.00	0.890	202	20.00	22.70	18.06	16.00	66.06	45.48
<b>Retail Pump Price</b>	<b>132.00</b>	<b>39.91</b>	<b>208.00</b>	<b>13.00</b>	<b>6,360</b>	<b>199.00</b>	<b>237.00</b>	<b>205.00</b>	<b>420.00</b>	<b>1078.48</b>	<b>580.48</b>

Local Currency Units      Thebe Shilling      Cents      Kwacha      Meticals      Cents      Cents      Cents      Shilling      Kwacha      Cents

<b>Exchange Rate to US\$ at 31.8.98</b>	<b>4.6626</b>	<b>59.423</b>	<b>6.3436</b>	<b>29.656</b>	<b>118.45</b>	<b>6.3436</b>	<b>6.3436</b>	<b>6.3436</b>	<b>6.5828</b>	<b>19.755</b>	<b>21.607</b>
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<b>Mogas (US c/l)</b>	<b>Bots</b>	<b>Ken</b>	<b>Les</b>	<b>Mal</b>	<b>Moc</b>	<b>Nam</b>	<b>RSA</b>	<b>Swaz</b>	<b>Tan</b>	<b>Zam</b>	<b>Zim</b>
Product Basic Cost	15.21	15.08	14.71	21.54	11.49	10.42	13.78	15.97	25.79	23.37	15.69
Transport, Service Differential.	1.29	2.97	0.98	0.00	0.33	2.66	0.80	1.02	0.61	2.52	0.00
Govt. levies, duties, taxes	5.47	37.63	12.14	14.56	33.62	12.25	16.63	10.03	30.27	22.07	6.71
Oil Company margin (rounded)	3.24	8.31	2.44	4.72	6.55	2.88	2.57	2.44	4.70	3.29	2.36
Dealer Margin	3.11	3.17	2.52	3.00	1.71	3.15	3.58	2.85	2.43	3.34	2.10
<b>Retail Pump Price</b>	<b>28.31</b>	<b>67.16</b>	<b>32.79</b>	<b>43.83</b>	<b>53.69</b>	<b>31.37</b>	<b>37.36</b>	<b>32.32</b>	<b>63.80</b>	<b>54.59</b>	<b>26.87</b>