

# Does Petroleum Procurement and Trade Matter?

*The Case of sub-Saharan Africa*

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**A** major portion of sub-Saharan Africa's foreign exchange earnings are devoted to the procurement of petroleum. This situation could be ameliorated: a revamping of policies and practices in hydrocarbons procurement and distribution could yield savings in the region of an amount significantly greater than yearly net disbursements of World Bank loans and credits to all the continent combined.

Petroleum products play a pivotal role in sub-Saharan Africa's economic development. Their purchase absorbs 20–35 percent of export earnings for the bulk of the countries in the region, and generates approximately 40 percent of tax revenues—thus constituting the single largest item in the balance of payments and fiscal revenues for most countries in this region. Although the primary energy balance is currently dominated by household consumption of fuelwood, petroleum products are the most important source of commercial energy, supplying approximately 70 percent of commercial energy requirements; and they are likely to be the fastest growing portion of the region's energy balance as the continent's modernization unfolds.

As the region becomes more developed, the demand for energy will also grow, thus setting up a vicious circle: Economic growth will be needed to pay for the expanding oil bill, and more imported fuel will be needed to generate

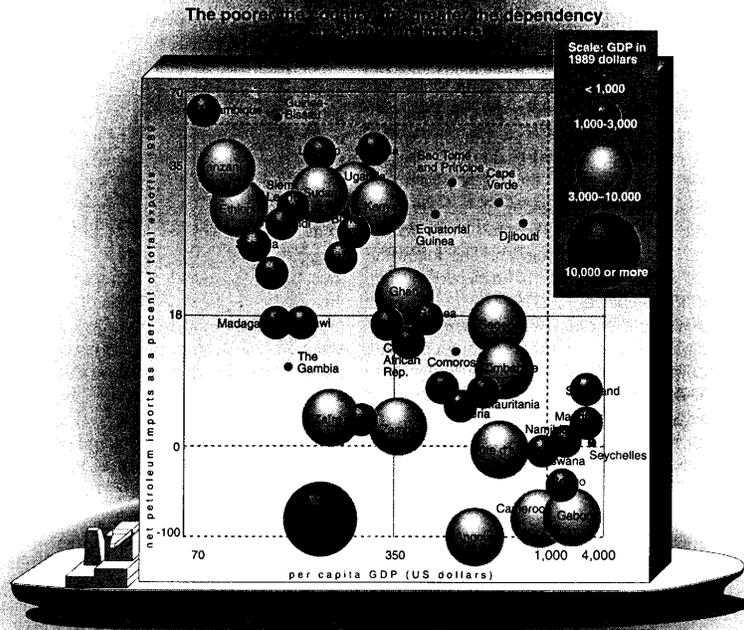
economic growth. These countries must make fundamental policy choices with respect to the petroleum industry if they are to escape this self-defeating cycle.

## Can savings be generated?

Except for Angola, Cameroon, Congo, Gabon, and Nigeria, all countries of sub-Saharan Africa are net importers of crude oil or petroleum products. Data comparing per capita GDP to oil imports (Chart 1) show that the lower the per capita GDP, the higher the percentage of net imports represented by petroleum. Greater efficiency in procuring and distributing petroleum products would reduce the amount of funds these countries devote to

paying their oil bills, thus freeing those resources for other uses and potentially reducing the poverty level of these countries.

A World Bank-sponsored survey, financed by the Italian Government, on the rationalization of the supply of petroleum products in sub-Saharan Africa estimates that, for the whole of the region, a rational system of oil procurement and distribution could generate savings of about \$1.4 billion a year at 1989–90 prices. This amount is greater than total World Bank annual disbursements of adjustment policy loans, and close to 50 percent higher than the net disbursement to the entire region combined. These savings represent the difference between the actual cost of



supplying petroleum products to consumers (either through imports or by refining crude) and a benchmark cost corresponding to procuring these products from world markets under competitive conditions. The figure also includes savings generated by improvements in internal distribution systems.

The potential savings can be better understood if the three components in the supply chain—procurement, refining, and distribution—are considered separately, and the actual prices at each stage are compared with international (freely traded) equivalents (Chart 2).

**Procurement** is the most promising area of savings, constituting about half of the potential reduction of foreign exchange claims. Inefficiencies currently arise from a lack of foreign exchange, poor credit standing, and inappropriate bidding procedures. All of these are inter-related factors, and symptomatic of monopoly control and government interference. Indeed, the greatest supply inefficiencies exist in countries where governments are most involved in petroleum procurement (Chart 3).

To encourage efficiency, procurement should take place through competitive bidding. Prices of entering petroleum products should be equivalent to import parity prices—derived from prices on international markets plus transport—and should reflect economic costs, not hidden margins or subsidies. Within the framework of economic adjustment programs, countries should plan ahead and allocate the foreign exchange to pay for its oil imports to avoid small shipments and high financial costs.

**Refining** holds promise of being the second largest source of cost reductions, responsible for approximately 40 percent of total savings. Currently, refining in sub-Saharan African countries is carried out in old, small topping units using simple techniques (hydroskimming) with little potential for economies of scale. For the most part, they are poorly maintained and underutilized, produce refined yields that are insufficient to satisfy domestic demand, and generate a product mix unsuitable for local markets. The result is that locally produced petroleum products are not competitive vis-à-vis direct imports from nearby producing and refining centers (the

Gulf and possibly the Republic of South Africa on the East coast, and the Caribbean or even the Mediterranean on the West coast).

**Inland distribution** is the third area of potential savings. Inefficiencies arise from the extensive use of road transport instead of rail, poor storage, dilapidated infrastructure, and inadequate market competition. Infrastructure rehabilitation, requiring new investments, is needed, particularly in the case of railway lines and storage facilities.

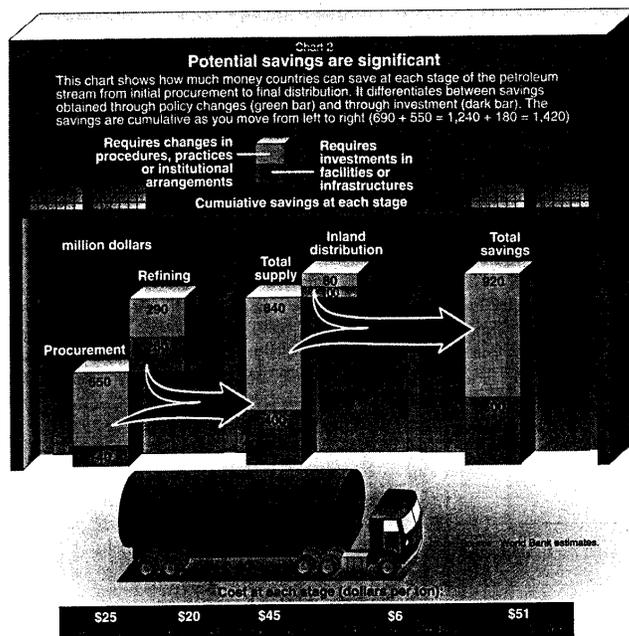
In total, close to 65 percent of potential savings can be realized through changes in operating procedures, institutional arrangements, and refining restructuring or closures, while the remaining 35 percent will require investments in infrastructure. There are clear advantages to be gained from reorganizing distribution over subregions of several countries, thus benefiting from economies of scale. Given the size and location of consumption centers, this restructuring would necessarily cause supply lines to cut across national boundaries, making countries within a subregion more reliant on one another. This is far more cost effective than the existing fragmented system, and would require the active cooperation of the governments involved. But as the experience in other parts of the world (and even some African countries) suggests, the number of operators in the oil industry is such that neither size nor location of a country impedes the ability to realize the benefits of open competition.

greater the inefficiencies of petroleum procurement and distribution arrangements, the greater the potential for reducing the exposure to international price changes through improved hydrocarbons trade arrangements.

### Institutional and policy imperatives

The inescapable conclusion is that hydrocarbons procurement and distribution must be opened to the discipline of greater competition. Indeed, the experience recorded in other regions (Western Europe, Southeast Asia, and, currently, Latin America) that have allowed numerous available suppliers to compete in their markets suggests that a policy change in Africa along these lines would provide significant benefits to the continent. Well over half of the savings estimated in the survey require no initial investment outlay, but would result from opening the regulated markets to competition. Compared with the benefits that might be obtained through energy conservation, or even with the financial resources stemming from structural adjustment, the benefits from rationalizing the supply and distribution of petroleum products appear significant and certainly no more difficult to attain, given the small number of actions and institutions involved.

These policy decisions will also determine a country's ability to attract capital to finance the investments required to realize the remainder of the identified potential savings. Government policies should be modified, not



The actual savings will depend on a variety of factors. Chief among them are location (with countries in the interior having a larger share of benefits accruing from revamped distribution arrangements, and coastal areas benefiting more heavily from improved procurement arrangements) and petroleum prices. It should also be noted that the above-mentioned analysis was carried out with benchmark world oil prices of 1990, which were far lower in nominal terms than average world oil prices over the past ten years. If prices were to increase, the potential savings could be commensurately higher—for example, close to three times the above-mentioned figure if one were to use 1982 as a benchmark, when prices were triple their current level. More importantly, the

only to attract risk capital for oil exploration and production but also to obtain more rational wholesale and dealer margins, to eliminate cost-plus systems in refining and distribution operations, and to raise financing for the required rehabilitation projects. Open market competition has the potential to:

- lower prices to consumers (industrial and other);
- shake off habits, attitudes, and unsuitable techniques, all of which are wasteful; and
- increase accountability, the lack of which has kept inefficient operators in business.

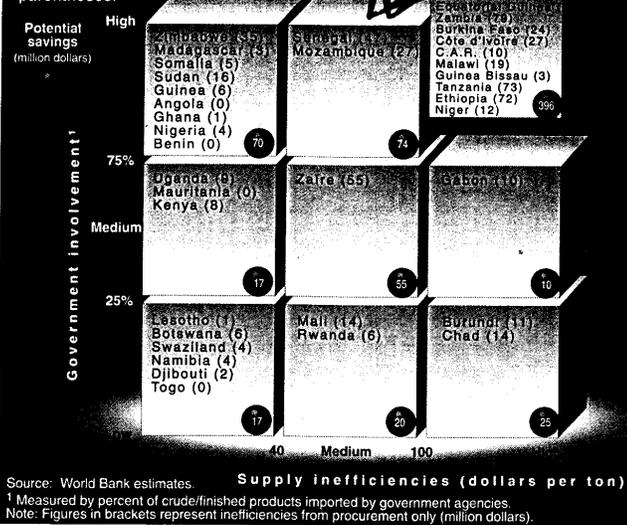
**Institutional arrangements.** Following the wave of nationalism in producing countries in the 1960s and 1970s, governments created national oil companies with the aim of capturing a large portion of oil rent. The result is that throughout most of the region, governments control the sector through public enterprises or through joint ventures that cover even the operational and commercial side. In many cases, public or mixed enterprises own terminals, refineries, or depots, and have a monopoly over procurement and distribution within the country. In retrospect, public enterprises have failed to achieve governments' objectives, and market competition and more efficient private management could bring better results.

**Pricing.** There are two levels at which decisions in the pricing of petroleum products are of importance. The ex-refinery price (cost of crude plus refining and storage margins) provides signals to producers, and the retail price (ex-refinery price plus distribution and marketing margins and consumer taxes) provides signals to consumers. Inappropriate retail price setting results in two types of inefficiencies: when prices are set above industry costs, creating unnecessary rents, consumers absorb the difference; when retail prices are lower than production costs, the industry, in effect, subsidizes consumers.

Ex-refinery prices should be as close as possible to prices in the nearest international market. The inability of governments to adjust ex-refinery prices to changes in the international market and to remunerate the oil industry commensurately has created severe financial losses, delayed investments, reduced

### More government involvement results in greater inefficiencies

Countries in the upper left block have high government involvement and low supply inefficiencies. The savings they can accrue through better procurement is shown in parentheses.



Source: World Bank estimates.  
 1 Measured by percent of crude/finished products imported by government agencies.  
 Note: Figures in brackets represent inefficiencies from procurement only (million dollars).

production capacity, and frightened off newcomers—thereby compromising both the country's security and economic activity.

The average level of retail prices paid by consumers should be related to the degree of competition a country faces within its economic region. Subsidies should be eliminated, or, if necessary, remain limited to specific regions or products rather than being built into the general pricing schedule. Taxes and, in turn, consumer prices should be set in such a way that they provide incentives for operators to function and invest.

**Investment policies.** The issue of increasing the private sector role relates to the need to introduce efficiency into operations, obtain risk capital, and improve the creditworthiness of energy companies so that they can finance required projects. Considering the region's significant debt problems and the global demand for capital, public companies will be unable to raise sufficient capital to develop energy supplies. Opening the industry could help break countries' continuing isolation from technical changes that are sweeping international markets.

### Conclusions

As in other areas, the policy lesson is clear. Governments must get out of activities that competitive markets do best—producing and allocating goods and services. This is particularly true in such an entrepreneurial, volatile, and dynamic industry as the oil business. As experience in other parts of the world strongly

indicates, the free access to supply and distribution of various economic agents, rather than privileged monopoly (be it private or public), is without question a better and more economic solution for the continent.

More broadly, the financial drain resulting from petroleum procurement and distribution are of such magnitude that they inevitably dull the benefits of adjustment processes, crowding out (or perhaps more appropriately, taxing) the surpluses that these economies could generate for sustained investments for social development, and severely strapping the economies of foreign exchange availability and vital contact with world trade.

No amount of foreign financial and technical assistance can overcome such hindrance. Without foreign exchange to pay or to be paid for goods and services sold across national boundaries, enterprises are cut off from customers, suppliers, and financiers of investment and trade transactions. Development financing and technical assistance, however well conceived, are not substitutes or shortcuts for the rich resources of talent that can be mobilized for solving financial, market access, technical, and other problems so vital in today's competitive world trade situation. Accordingly, the entire issue of downstream petroleum trade, particularly the huge economies to be derived from it, needs to be put much higher in the policy agenda of the parties concerned if the economic potential of the region is to be realized. ■



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