PRICING OF PETROLEUM PRODUCTS IN NIGERIA

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Introduction: The issue of the pricing of petroleum products has dominated public discourse and policy contestations for years in Nigeria. Contestations have focused on Subsidy removal, Deregulation or Appropriate pricing. At the heart of each of these is the pricing and therefore, the cost of petroleum products to consumers and producers in the economy. Yet, most Nigerians are not conversant with the pricing mechanism for petroleum products and the main determinants of their prices.

This study undertakes a comprehensive analysis of mechanisms of these products' pricing and the main determinants of prices. In this regard, it would be interesting to compare the pricing of Premium Motor Spirit (PMS) with that of Diesel, in which no subsidy regime exists. Comparative analysis of products' prices among a number of countries is also undertaken. Competing models of petroleum products' pricing are analysed. Among such models are the Indian Model and the New Brunswick model. A critical evaluation of existing and historical Nigerian pricing templates is undertaken. Templates based on an import regime are evaluated side by side with templates based on domestic refining.

Within Nigeria, the geographical variations in the prices of these products, even with the operations of the Petroleum Equalisation Fund (PEF), remain one of the major challenges facing petroleum products supply in the economy. Spot prices are presented across the six geopolitical zones.

Methodology: The research is based on a review of existing literature and country experiences, collection of secondary data from existing relevant reports, OPEC and other data sources. A spot prices survey in rural and urban locations in the six geographical zones was adopted to gather data on geographical price variation. Individuals in the pre-selected locations were commissioned to report spot pump head prices of petroleum products within the same time framework.

Alternative Pricing Models: In many countries of the world, the pricing of petroleum products is regulated in one form or the other. There are a number of reasons for this. First, the petroleum industry globally is not a competitive one. Rather, the industry is oligopolistic with a few major companies dominating the industry. Under such a market structure, some form of price regulation becomes necessary to protect consumers against oligopolistic and monopolistic exploitation. A second reason why petroleum products prices are widely regulated has to do with the nature of the products themselves and the important role they play in the economy and the lives of citizens. An unregulated price regime could lead to very high prices of the products, which the economy and, particularly, the poor may not be able to bear. A further reason is to avoid extreme volatilities in the prices of petroleum products. These are thought not to be in the interest of the economy and consumers. Price regulation may also be instituted to ensure uniformity of prices across a country or region. In some of the oil endowed states, price regulation is used to ensure that the benefits of the endowment are passed on to citizens and are used to define comparative advantage for the economy.

Whatever the underlying reasons for regulating petroleum products' prices, it is important to carefully and explicitly set out the framework of price determination for these products. In this section, we examine some of such pricing frameworks.

New Brunswick, Canada: In Canada, a mature market economy, price regulation is at the discretion of the regions. New Brunswick, one of the federating regions, has an institutionalised framework for price regulation. This framework is enshrined in

the Petroleum Products Pricing Act of 2006 which vests the regulation of the prices on a Board. Section 3 (1) of the Act provides as follows:

The Board has authority

> *(a) to set, and shall set the maximum wholesale and retail prices that a wholesaler and a retailer may charge for petroleum products, and*

> *(b) to set, and shall set the maximum margin between the wholesale price to the retailer and the retail price to the consumer of petroleum products.*

Section 4 of the Act defines the elements of the maximum price as follows:

4(1) For each type of heating fuel and motor fuel, the maximum wholesale price shall be the sum of

(a) the benchmark price, as established or adjusted pursuant to sections 10 and 11,

(b) the maximum wholesale margin, and

(c) applicable taxation.

4(2) For each type of heating fuel and motor fuel, the maximum retail price shall be the sum of

(a) the benchmark price, as established or adjusted pursuant to sections 10 and 11,

(b) the total allowed margin, which is comprised of the maximum margin for a wholesaler and the maximum margin for a retailer, and

(c) applicable taxation.

4(3) Delivery costs do not form any part of any margin under this section.

4(4) Notwithstanding that a maximum margin is set for a wholesaler and a retailer, if the wholesaler and the retailer agree in writing, they may apportion the total allowed margin between them in such manner as they see fit.

As indicated above, the Board is vested with the power to determine and adjust the benchmark price for each product. While section 10 of the Act deals with the establishment of the benchmark price, section 11 deals with its adjustment.

Margins and delivery costs, once established, cannot be reviewed until twelve months have elapsed. One of the greatest issues of concern in New Brunswick, and indeed the whole of Canada, is the need to ensure that the price of heating oil remains within the reach of the poor.

What is clear in the case of the New Brunswick model is that it is market based and does not require financial or budgetary support from government. Even the running cost of the Board is funded by a surcharge on wholesalers in proportion to their annual traded volume of products. It is important to note however that even in a mature free market economy like Canada, the need for an institutionalized body to regulate prices has found expression in the laws of the region.

India: India has had a long history of petroleum products price regulation. Such policy of regulation was set within the framework of energy products pricing policy. According to a 2012 guide on energy subsidies,

> energy subsidies aim to improve energy access by making prices more affordable, shielding domestic consumers from international price volatility, and supporting energy-intensive industries (International Institute for sustainable Development, 2012a, p.8).

Consequently, price regulatory regimes have long existed for electricity and petroleum products. In the case of petroleum products, the pricing regime has changed over time, alternating between market and regulated regimes. Until 2010, the prices of petrol, diesel, kerosene and liquefied petroleum gas (LPG) were controlled by the central government. In June 2010, the Indian government deregulated the price of petrol. Still in this case the oil marketing companies (OMCs) can only change prices every fortnight, and only after seeking approval from the government. Prices of diesel, kerosene and domestic LPG continue to be regulated.

Prices for these products are set by the government below the international market prices, with subsidies provided in one form or the other. The central government provides fiscal subsidies for kerosene and LPG at rates usually less than the difference between the cost price and the selling price. In the case of diesel, there is no direct fiscal subsidy provided. This scenario has resulted in the prevalence of "under recoveries" by the OMCs. The following chart shows the determination of under-recoveries for kerosene and LPG.

Fig. 1a: Calculation of Under-Recoveries for Domestic Kerosene and LPG
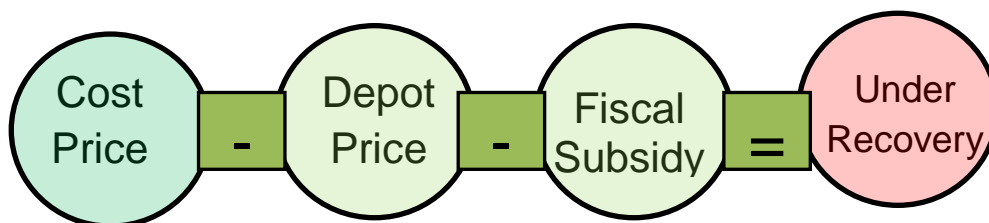
In the case of diesel, in which there is no longer a fiscal subsidy, the under-recovery by the OMCs is calculated as follows:

Fig. 1b: Calculation of Under-Recoveries for Domestic Diesel
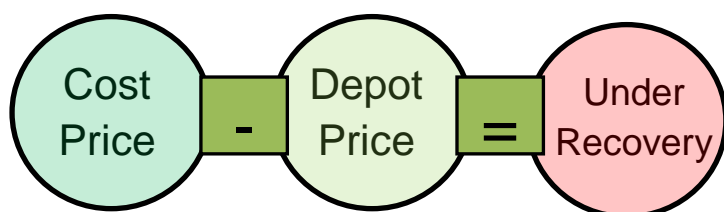
In each case, government sets the depot price. The question is who bears the burden of the under-recoveries. A large part of these is provided for by government cash assistance beyond the fiscal subsidies. Some part is covered by financial assistance from National Oil Companies (NOCs) operating in the upstream. Any residual in the short term is borne by the OMCs. Government cash assistance is usually more than half of the total under-recoveries and is determined on an ad hoc basis. Given the magnitude of the under-recoveries, government assistance is usually higher than the amount of fiscal subsidy specific to kerosene and LPG. Tables 1a and 1b present the relevant figures for 2010-11.

Table 1a: Quantum of Subsidies and Under-Recoveries, 2010-11 (Million US $)

Fiscal Subsidies		Under-Recoveries
Kerosene	204	4,275
LPG	433	4,777
Diesel	-	7,614
Petrol	-	489
Total	637	17,154

Source: International Institute for sustainable Development, 2012a

As the table shows, there was under-recovery to the tune of 17 billion US dollars in the year under consideration. The question is, how was this financed? Available data

shows that government bore nearly 9 billion of the total while upstream oil companies bore 6.6 billion. Table 1b shows the distribution of the burden of financing the under-recoveries in 2010-11.

Table 1b: Financing of Under-Recoveries, 2010-11 (Million US $)

Government Cash Assistance	NOCs Upstream Assistance	Borne by OMCs
8,995	6,647	1,512

Source: International Institute for sustainable Development, 2012a

As can be seen from the tables, government cash assistance dwarfs fiscal subsidy provision. Cash assistance is provided for in the fiscal budget and is accounted for under the expenditure category "compensation to oil companies for under-recoveries on account of sale of sensitive petroleum products" (Union budget, 2011-12). Prior to 2008-09 when this cash assistance scheme came into force, OMCs were compensated by government for under-recoveries by the issuance of oil bonds to the companies by the government.

While the Indian example may appear cumbersome and complicated, it nevertheless demonstrates the importance the government attaches to a "cheap" energy regime with a view to protecting the poor and nurturing comparative advantage in energy intensive industries.

 Ghana: Prior to the 2003 reform importation of crude and refining were exclusively handled by the government through the Ghana National Petroleum Company (GNPC). Prices of petroleum products were heavily subsidized. In 2003, due to the heavy indebtedness of GNPC and near insolvency of the Tema Oil Refinery and under pressure from the IMF, a new pricing mechanism was introduced. The new pricing scheme which has come to be known as the Price Adaptation Mechanism involves the calculation of the *ex-refinery prices* using world market crude oil prices with mark-ups for insurance, transportation, suppliers' commission, refining costs and other charges. A host of taxes and levies make up the other charges, depending on the specific product involved. These include Cross-Subsidy levy, Unified Petroleum Price Fund (UPPF) levy, Road levy, Social Impact Mitigating Levy, Exploration Levy, Energy Fund Levy, Debt Recovery Levy and Excise Duty. The cross-product subsidy and UPPF levies are particularly interesting in that they seek to provide cross products and cross regional subsidies respectively. In the case of

Cross-subsidy, the levy imposed on petrol serves as a subsidy fund for kerosene. The UPPF levy on the other hand generates funds needed to smoothen prices across the coastal and hinterland regions.

The scheme is administered by the National Petroleum Authority (NPA) established by an Act of Parliament in 2005. The NPA, after establishing ex-refinery prices and applying all legislated levies and margins, sets maximum indicative ex-pump prices of different products for the OMCs and reviews same from time to time. In June 2008, reacting to escalating prices of petroleum products, parliament enacted an Act suspending any further upward adjustments in the prices of petroleum products and abolishing some of the levies applicable to specific products. In 2009, the NPA established an ex-refinery differential fund into which was paid the proceeds of a levy to ensure that import-parity prices could be paid to those who import products and the Tema Oil Refinery when international prices were in excess of the domestic ex-refinery price. The legality of this was challenged in court and on 28 November 2012 a High Court ruled that,

- *the introduction of the ex-refinery differential in the prescribed petroleum pricing formula was an illegal imposition of tax not approved by Parliament in accordance with Article 174 of the 1992 Constitution of Ghana. The judge also made the following consequential orders:*

- *NPA must publish the amounts obtained in the ex-refinery differential account in the Daily Graphic and Ghanaian Times within 4 months of the judgment;*

- *Pay all amounts accrued on the ex-refinery differential margin from 6th June 2009 to date into the Consolidated Fund; and*

- *NPA is restrained from imposing the ex-refinery differential on petroleum products in the country until approved by Parliament or the relevant procedures are complied with (National Petroleum Authority, 2012).*

Given that international prices continue to be higher than the ex-refinery prices and that the domestic refining capacity cannot fully cater for domestic consumption, the issue of government subsidy has been reawakened.

South Africa: South Africa operates a pricing mechanism which is broadly similar to the Ghanaian Price Adaptation Mechanism. The South African mechanism is based however on the import parity principle. Retail prices are regulated by government and are set based on computations done by the Central Energy Fund on behalf of the Department of Minerals and Energy. Based on the computations, prices are changed on the first Wednesday of every month. Price computations are based on a number of elements, which may be classified into international and domestic elements. The international element, or Basic Fuel price (BFP), is based on "what it would cost a South African importer to buy petrol from an international refinery and to transport the product onto South African shores". The components of the BFP are elaborated in Box 1a.

Computations based on the outlined elements are converted into the South African Rand using the Rand/Dollar exchange rate to determine the BFP.

The domestic elements consist largely of margins, transportation costs and levies and taxes. Box 1b outlines these elements.

Box 1a: Components of the Basic Fuel Price (BFP)

International petroleum market spot prices

The largest component of the basic fuels price is the price that one would be paying on international markets when physically importing product to South Africa. The FOB (Free on ship's board) product prices from different locations in the world, based on international product availability and product quality, are used. The petrol FOB price is calculated as 50% of the Mediterranean spot price for Premium unleaded petrol and 50% of the Singapore spot price for 95 Octane unleaded petrol. For the FOB price of Diesel, the BFP formula use spot prices calculated as 50% of the Mediterranean price for Gas oil and 50% of the Arab Gulf price for Gas oil, plus the quoted spot price market premiums applicable.

Freight cost to bring product to South African ports

The freight component of the BFP reflects the cost of voyages from Augusta (in the Mediterranean), Singapore and Mina-al-Ahmadi (in the Arab Gulf), in 50:50 combinations as appropriate to the international markets used in the FOB calculations of the products concerned. Tariffs as published by the World Scale Association for transporting refined products via medium range vessels to a weighted average for South African coastal ports, plus demurrage for an average 35 000 ton vessel for 3 days, adjusted with the Average Freight Rate Assessment (AFRA) of the London Tanker Brokers Panel, plus a market premium for transporting fuels to South Africa.

Insurance costs

Calculated as 0.15% of the product FOB and freight costs, to cover insurance cost, as well as other costs such as letters of credit, surveyors' and agents' fees, and laboratory costs.

Ocean loss allowance

In international petroleum products trading, shipping and insurance, a loss of 0.3% for products has been accepted as a normal leakage/clingage and evaporation loss. Simply put, this means that the "normal" loss is not insurable and has to be accepted by the buyer. The buyer therefore has a financial loss of 0.3% of FOB, Insurance and Freight costs.

Cargo Dues

The BFP calculates Cargo Due charges in terms of the ruling National Ports Authority of South Africa "contract" tariffs for "petroleum products".

Coastal Storage

This element allows recovering of the costs realistically incurred in a substantial import scenario, related to costs of the handling facilities at coastal terminals providing storage.

Stock Financing Cost

The BFP includes a charge for the financing of 25 day's coastal stock of an importer, at an interest rate of 2 percentage points below the ruling prime rate of the Standard Bank of South Africa.

Source: Adopted from *How Fuel Prices are Calculated in South Africa (http://www.capri-perana.co.za/FuelPrice_calculation_SA.pdf)*.

Box 1b: Domestic Elements of Petroleum Products Prices

a. Transport costs (Zone differential)
Keeping in mind the import principle used, this element recovers the cost of transporting petroleum products from the nearest coastal harbour (Durban, Port Elizabeth, East London, Mossel Bay or Cape Town) to the inland depot serving the area or zone. Transport to the different pricing zones are determined by using the most economical mode of transport i.e. pipelines (C zones), road (B zones) or rail (A zones). This is the only element which values differ per pricing zone, and is the reason why the petrol price is not the same for the whole country.

b. Delivery costs (Service differential)
This element compensates marketers for actual depot related costs (storage and handling) and distribution costs from the depot to the end user at service stations. The value is calculated on actual historical costs of the previous year, averaged over the country and industry.

c. Wholesale (Marketing) margin
Money paid to the oil company through whose branded pump the product is sold, to compensate for marketing activities. This margin is controlled by the government, allowing for changes based on the oil companies' return on their marketing assets. The formula used to determine the wholesale margin is based on the results of a cost/financial investigation by a chartered accountant firm into the profitability of the wholesale marketers. The level of the margin is calculated on an industry basis and is aimed at granting marketers a return of 15% on depreciated book values of assets, with allowance for additional depreciation, but before tax and payment of interest.

d. Retail margin
The retail margin is fixed by DME and is determined on the basis of actual costs incurred by the service station operator in distributing petrol. Account is taken of all proportionate driveway related costs such as rental, interest, labour, overheads and profit. The way in which the margin is determined creates an incentive to dealers to strive towards greater efficiency, to beat the average and to realise a net profit proportionate to their efficiency.

e. Equalisation Fund levy
The statutory fund levy is a fixed monetary levy, and the fund is regulated by ministerial directives issued by the Minister of Mineral and Energy Affairs in concurrence with the Minister of Finance, as laid down by the Central Energy Fund Act, No 38 of 1977 as amended In terms of Ministerial Directives the Fund is principally utilised to smooth out fluctuations in the price of liquid fuels through slate payments; to afford synfuel producers tariff protection and to finance the crude oil "premium (price differential applicable to SA oil purchases during the late 1970's).

f. Fuel tax
Tax levied by Government annually adjusted by the Minister of Finance effective from the price change in April of each year, announced in the Minister of Finance in his annual budget speech.

g. Customs & Excise levy
A duty collected in terms of the Customs Union agreement.

h. Road Accident Fund (RAF)
The Road Accident Fund receives a fixed value which is used to compensate third party victims in motor accidents.

i. Slate levy
A levy paid by the motorists recovering money "owed" to the oil companies, due to the time delay in the adjustment of the petrol pump price.

Source: Adopted from *How Fuel Prices are Calculated in South Africa (http://www.capri-perana.co.za/FuelPrice_calculation_SA.pdf)*.

These domestic elements are then added to the computed BFP to arrive at the retail price of the product for a designated marketing region.

The Implicit Subsidy Model of Petroleum Products Pricing: In contradistinction to the models above, a number of countries which are net exporters of oil manage their domestic petroleum products prices through a regime of implicit subsidies. This is based on pricing domestic crude differentially from crude in the international market. This has enabled a number of oil exporting countries to keep their domestic products prices below international prices. The pricing mechanism in this case involves charging the refiners of crude for domestic use a pre agreed price lower than the international price of crude. Since crude cost is the major component of refined product cost, the resulting domestic prices of petroleum products are kept lower than they would otherwise have been if the crude price concession were not made. This helps to explain the relatively lower prices of petroleum products in a number of OPEC countries as shown in the comparative prices charts presented later. This pricing model has been practiced in virtually all OPEC countries at one time or the other, although some of these countries have now moved away from it.

To illustrate how this model works, let us draw on the economics of refining. On average and given technical efficiency, a barrel of crude oil could be refined in 2011-12 at a cost of $12.6. From this barrel of crude, an assortment of refined products can be produced. Standard industry output mix for light crude is as contained in Table 2.

**Table 2: Standard Refined Product Mix from a Barrel of Light Crude**

Product	Output (litres)
PMS	78
Diesel	40
Jet Fuel/Kerosene	16
LPG	16
Fuel Oil	10
Bottoms (Residuals)	20

Source: Derived from Agbon, 2011

Although the prices of each of these product categories differ in the market, let us assume for the sake of analysis that they are equivalent. Based on this simplifying assumption, the unit cost of refining per litre is $0.28. This excludes the cost of crude delivered at the refinery gate. As indicated earlier, the major driver of final cost is the cost of crude. The policy handle for domestic product price determination under this pricing model is, therefore, the price of crude for domestic consumption.

There is no uniform way OPEC countries have dealt with this. While some, such as Ecuador, Kuwait and, more recently, Iran have moved towards market prices and even taxes, a number of others have based pricing on cost of extracting crude. The result is that there is a great variation in the prices of petroleum products within the organisation. Charts 1a to 1c show the prices of PMS, Diesel and Kerosene for OPEC members based on the latest published data.

**Chart 1a: Domestic Retail Prices of PMS for Member Countries of OPEC, January 2012, US $ per Litre**
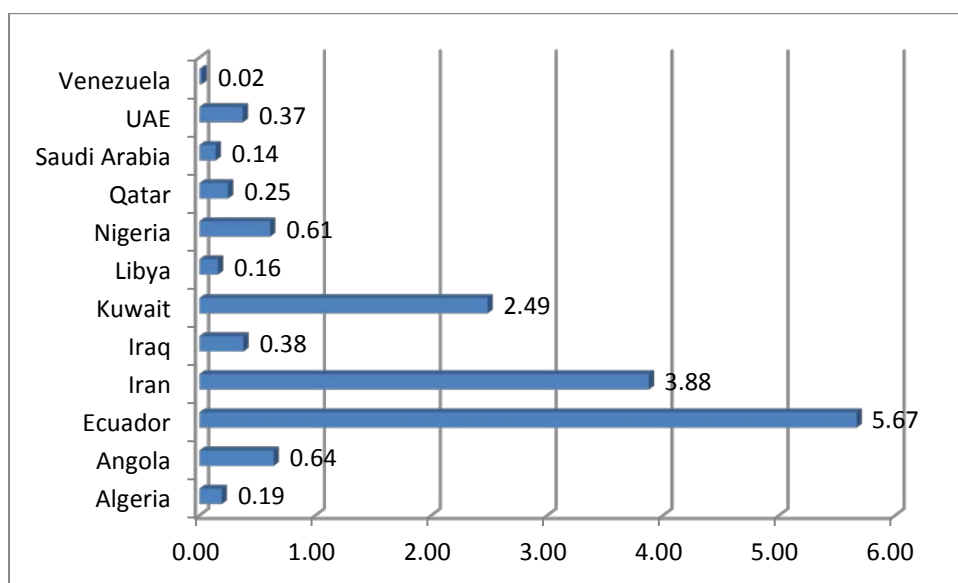
Source: Computed from data in OPEC, Annual Statistical Bulletin, 2012.

Chart 1b: Domestic Retail Prices of Diesel for Member Countries of OPEC, 2011, US $ per Litre
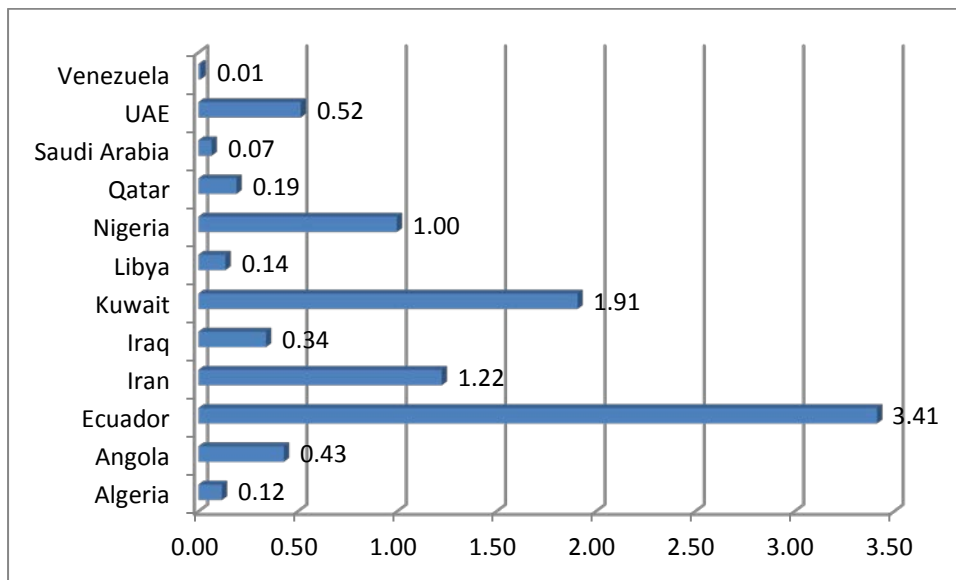
Source: Computed from data in OPEC, Annual Statistical Bulletin, 2012.

Chart 1c: Domestic Retail Prices of Kerosene for Member Countries of OPEC, 2011, US $ per Litre
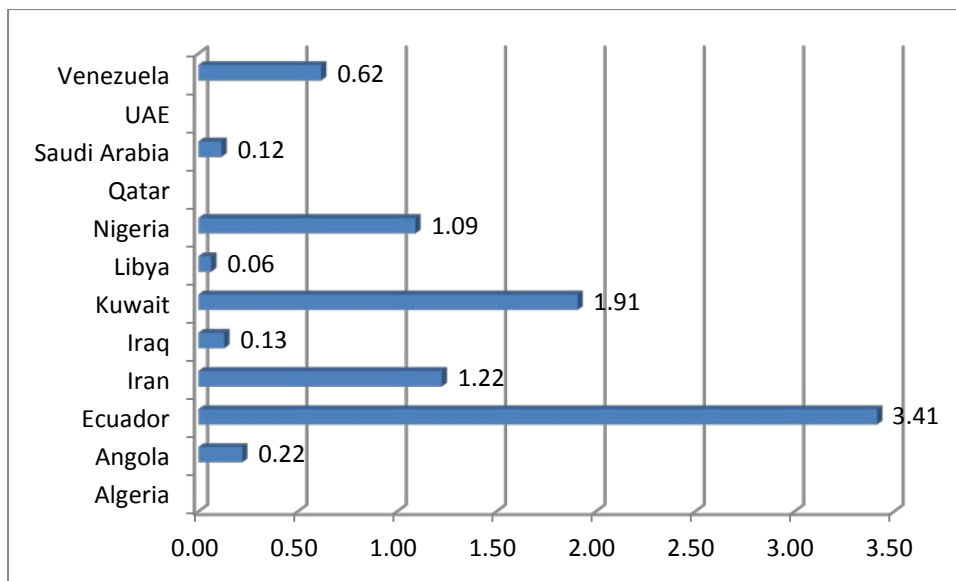
Source: Computed from data in OPEC, Annual Statistical Bulletin, 2012.

Nigeria: Today, there is a dual pricing mechanism for petroleum products. On the one hand diesel pricing is completely deregulated with marketers free to charge whatever price they choose. The pricing of PMS and domestic kerosene, however, is determined from time to time by government. Since these prices are usually set below the market price, a subsidy scheme is in place to defray the potential under-recovery associated with such pricing.

The Petroleum Products Pricing Regulatory Agency (PPPRA) determines the Expected Open Market Price (EOMP) based on a template agreed to by the stakeholders within the framework of the agency's governing board. The latest template published by PPPRA for PMS is contained in Table 3. Table 4 summarises the template for kerosene based on December 2012 data, which is the most recent published by PPPRA.

	Table 3: PPPRA PRICING TEMPLATE FOR PMS Based on Average Platt's Prices for the Month of April 2013	
	Cost Element	Naira/Litre
1	Cost, Insurance & Freight	117.23
2	Trader's Margin	1.18
3	Lightering Expenses (SVH)	3.96
4	NPA	0.62
5	Financing (SVH)	1.79
6	Jetty Depot Thru' Put Charge	0.80
7	Storage Charge	3.00
8	**Landing Cost**	**128.58**
	Distribution Margins	
9	Retailers	4.60
10	Transporters	2.99
11	Dealers	1.75
12	Bridging Fund	5.85
13	Marine Transport Average (MTA)	0.15
14	Admin Charge	0.15
15	**Sub Total Margins**	**15.49**
16	**Total Cost**	**144.07**
	Taxes	
17	Highway Maintenance	-
18	Government Tax	-
19	Import Tax	-
20	Fuel Tax	-
21	**Expected Open Market Price**	**144.07**

Source: PPPRA Website (http:/www.pppra-nigeria.org)

For kerosene, the most recent template information published by the PPPRA is for August of 2012. Table 4 presents the template for kerosene based on the data.

	Table 4: PPPRA PRICING TEMPLATE FOR KEROSENE Based on Average Platt's Prices for the Month of December 2012	
	Cost Element	Naira/Litre
1	Cost, Insurance & Freight	134.43
2	Trader's Margin	1.28
2	Lightering Expenses (SVH)	4.11
3	NPA	0.68

4	Financing (SVH)	0.69
5	Jetty Depot Thru' Put Charge	0.80
6	Storage Charge	3.00
7	**Landing Cost**	**144.99**
	Distribution Margins	
8	Retailers	4.60
9	Transporters	2.99
10	Dealers	1.75
11	Bridging Fund	5.85
12	Marine Transport Average (MTA)	0.15
13	Admin Charge	0.15
14	**Sub Total Margins**	**15.49**
15	**Total Cost**	**160.48**
16	**Expected Open Market Price**	**160.48**

Source: PPPRA Website (http:/www.pppra-nigeria.org)

The difference between the expected open market price (EOMP) and the approved retail price (ARP) in each case constitutes the amount of subsidy per litre (SPL). Thus, for April 2013 on average, the subsidy per litre of PMS is calculated as follows:

EOMP ₦144.07 − ARP ₦97.00 = SPL ₦47.07
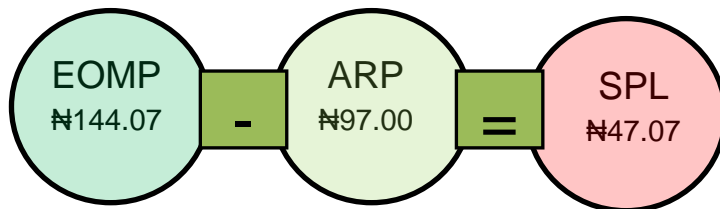
For kerosene, the subsidy per litre in December 2012 is likewise calculated as follows:

EOMP ₦160.48 − ARP ₦50.00 = SPL ₦110.48
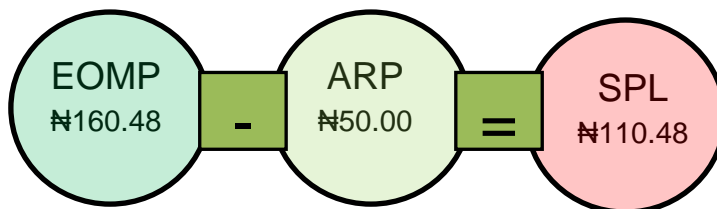
The subsidy is financed through budgetary provision under the head of the Petroleum Support Fund (PSF) which was formally introduced into the Federal budget in 2006. The objectives of the PSF were outlined at inception as follows:

- To stabilize the domestic prices of petroleum products against volatility in international Crude oil and Products market
- To create a level-playing field for active participation of NNPC & other Marketers in products supply and distribution
- To guarantee effective products' availability and distribution nationwide

- To entrench transparency and accountability in the administration of the Fund on petroleum products subsidy in line with the government objectives.

Several years after its inception, it has become clear that the fund has been severely abused and the process of subsidy administration has become riddled by corruption. The revelations of the House Ad Hoc Committee on the Management of the Subsidy Scheme have clearly shown the monumental sleaze which has characterised the operation of the fund. Among the issues raised by the report of the committee are inflated claims of consumption and landing costs, as well as absence of due process in the pre-qualification, verification and payment process. Currently a number of operators and firms are being prosecuted for inflated claims.

What is clear from the template is that it is based on an import regime premise. A major factor, therefore, which determines the landed cost is the exchange rate. Given the high share of the demand for foreign exchange accounted for by petroleum products' importation, a potential destabilizing mechanism underlies the domestic market. To avoid this pitfall, it is of paramount importance that domestic refining is resuscitated. Nigeria stands out among OPEC members as the one who exports virtually all her crude and imports the bulk of refined products for domestic consumption.

Since there is no established mechanism for determining adjustments to prices, adjustments in government administered prices have tended to be in quantum leaps. On a number of occasions, announced prices have had to be rolled back. Box 2 summarizes the history of price changes over the years for PMS.

Box 2: HITORICAL REVIEW OF PETROLEUM PRICES IN NIGERIA:

Gowon, 1973: 6k to 8.45k (40.8%), Murtala, 1976: 8.45k to 9k (0.59%), Obasanjo, October 1, 1978: 9k to 15.3k (70%), Shagari, April 20, 1982: 15.3k to 20k (30.71%), Babangida, March 31 1986: 20k to 39.5k (97.5%) Babangida, April 10 1988: 39.5k to 42k (6.33%) Babangida, January 1, 1989: 42k to 60k Private vehicles. Babangida, December 19, 1989: moved to uniform price of 60k (42.86%) Babangida, March 6, 1991: 60k to 70k (16.67%), Shonekan, November 8, 1993: 70k to ₦5 (614%) Abacha, November 22, 1993: petrol price drops from ₦5 to ₦3.25k (-35%) Abacha, October 2, 1994: ₦3.25k to ₦15 (361.54%) Abacha, October 4, 1994: price drops from ₦15 to ₦11 (-26.67%) Abubakar, December, 20, 1998: ₦11 to ₦25 (127.27%) Abubakar, January 6, 1999: ₦25 to ₦20 (-20%) Obasanjo, June 1, 2000: ₦20 to ₦30 (50%) Obasanjo, June 8, 2000: Petrol price reduced to ₦22 (-10%) Obasanjo, January 1, 2002: ₦22 to ₦26 (18.18%) Obasanjo, June to October, 2003: ₦26 to

When a fund was first recommended, it was within the framework of a recommendation by the Mantu Committee to institute a mechanism for the determination of petroleum prices. The recommendation was to set up **THE PETROLEUM PRODUCTS PRICES STABLISATION FUND.** This fund was meant to support a PRICE MODULATING SCHEME which would have instituted a formal mechanism for determining prices within a short run pre-set band, thus creating what would have become a snake in the tunnel pricing process.

What the above review of pricing mechanisms shows is that there are numerous models in existence. In a study of sixty-five developing countries, Kojima (2013) summarized identified mechanisms and their implications as presented in table 5.

Table 5: Typology of price adjustment mechanisms

Mechanism	Advantages	Potential problems
Steadily increase price at regular time intervals until cost-recovery levels are reached: By a pre-determined monetary amount (Thailand for LPG for vehicles and industry) By percentage (Mexico)	Each price increase is small and predictable	Could lose political commitment over time, and invite resentment if world prices are falling. If the increases are regular but small compared to world price increases, subsidies could continue for years (as in Mexico).
Deregulate prices for higher-grade fuels (Egypt, Indonesia, Malaysia)	End subsidies to the rich, who are the main consumers of higher-grade fuels.	Fuel switching by users from higher-grade to cheaper fuel, adulteration of higher-grade fuels with subsidized fuels
Ration heavily subsidized fuels, charge higher prices outside quota (kerosene and LPG in India, gasoline and diesel in Iran)	Limit subsidies	Diversion of rationed fuels to black markets or smuggling
Set different prices depending on user category (Costa Rica, India, Indonesia, Iran, Malaysia, Nepal, Thailand)	Limit subsidies	Selling the same product at different prices invites corruption, starting with diversion to consumers who are not entitled to the subsidized fuel (essentially every country)

Mechanism	Advantages	Potential problems
Shift subsidy from one product to another (kerosene-to-LPG conversion in Indonesia)	Subsidy for one product is completely eliminated	Could lead to a growing subsidy on the product to which the subsidy is shifted (as in Indonesia)
Introduce a temporary stabilization fund (Chile, Peru), temporary tax reduction (diesel in Thailand)	Deal with large price shocks while limiting the period of artificially low prices	Political pressure to repeatedly extend the phaseout date (Chile, Peru, Thailand), resulting in a growing budgetary outlay
Switch to rule-based pricing when world prices are low (China in Jan 2009)	No large price increases needed at the time of switching	When world prices begin to rise, the political will to adhere to rule-based pricing may weaken (as in China); a period of very low prices may not return in the future for governments to follow this approach
Adjust when world prices change significantly and subsidies become too costly to bear (Bolivia, Islamic Republic of Iran, Jordan, gasoline in Nigeria)	Stable prices between changes	Price changes are large when adjustments are finally made, adjustments almost always mean price increases, tendency to delay price increases, lack of predictability, possibility of growing subsidies, politicization of price increases, hoarding in response to rumors of imminent price increases and leading to fuel shortages
Adjust when world prices change by more than ±X% (Malawi, Togo)	Stability within the price band	If X is relatively large, potentially large changes when adjustments are made; possibility of losses exceeding savings within the price band
Float prices within a price band, smooth changes outside (Chile for small and medium consumers, Peru)	Avoid large price changes	Can lead to large subsidies unless price bands are frequently adjusted
Set different rules depending on world oil price (China)	Limit subsidies to times of high world prices	Unless price bands are adjusted from time to time, if world prices remain high, subsidies could grow
Mechanism	**Advantages**	**Potential problems**
Mechanism	**Advantages**	**Potential problems**
Agree on the total subsidy envelope for the fiscal year and adjust prices, volume, or both accordingly	Limit the total subsidy bill.	Politically difficult to raise prices when money runs out (Indonesia)
Adjust based on world prices averaged over past 3–6 months (no example in this study)	Prices change gradually	World and domestic prices could be moving in the opposite direction, inviting political backlash; could lead to large losses if world prices are rising over time.
Adjust regularly based on world prices averaged over 1–4 weeks (Dominican Republic, South Africa)	Tracking world prices well	World price volatility quickly transmitted.
Deregulate, subject to anti-trust regulations (Philippines, Turkey)	Market based, no subsidies	Downstream petroleum sector needs to be competitive or else consumers may be charged high prices; world price volatility immediately transmitted

Source: Adopted from Kojima, 2013

Geographical Variations in Prices:

Despite the subsidy claims by importers and in spite of the inclusion of a bridging fund (Petroleum Equalisation Fund) on the pricing template, prices of products continue to deviate from the set prices in different parts of the country. While historical data on such price variation may be difficult to obtain, a spot survey of

prices of PMS, Diesel and Kerosene in different locations of the country is undertaken to illustrate the extent of these variations. This is based on a stratified sample of locations in the six geopolitical zones involving both urban and rural locations.

The results of the survey indicate a wide variation in the prices of the products across the country. In particular, prices in the rural areas were higher than those in the urban areas. The national per litre price range for PMS was 97 to 200 naira; the range for diesel was 135 to 185 naira; and the range for kerosene was 55 to 175 naira. At the level of the geopolitical zones, the following per litre price ranges were found for PMS, diesel and kerosene respectively in naira:

South South:	97 – 200,	150 - 185,	60 – 175
South West:	97 – 97,	150 – 160,	70 – 120
South East:	97 – 110,	135 – 150,	100 – 125
North Central:	97 – 100,	150 – 170,	105 – 115
North West:	97 – 110,	150 – 170,	55 – 120
North East:	97 – 130,	150 – 170,	60 – 120.

The detailed result of the spot survey is contained in table 6. What is clear from the table is that, even for PMS on which subsidy is administered, prices vary from state to state. It also stands out from the table that prices are generally higher in the rural areas than the urban areas. The level of prices of diesel, which is deregulated, provide some indirect indication of what other products' prices are likely to be if they were totally deregulated. Given that PMS remains the major energy product of choice, the demand for it is likely to lead to greater price spikes.

In trying to explain the high prices in the South East for example, the Independent Petroleum Marketers' Association of Nigeria (IPMAN) has formally declared that its members could not sell PMS at the official price of ₦97 (Vanguard Newspaper, January 21 2013, p.6). In making this declaration, the association claimed that it sourced its products from independent tank farms at the rate of ₦105 per litre.

The higher prices in the rural areas can be explained in part by the lower level of competition in comparison to the urban areas. In the urban areas, particularly the state capitals, there are competing petrol filling stations operated by both major

marketers and independent marketers. This competition fizzles out in moving into the rural areas in which stand-alone stations serve large groups of communities.

Table 6: Petroleum Products' Retail Prices (₦ per Litre) as at 20th June 2013, except for North Central which was taken on 27th June 2013

Geopolitical Zone / State	PMS		Diesel		Kerosene	
	Urban	Rural	Urban	Rural	Urban	Rural
South South						
Bayelsa	97 – 110	180 - 200	175	185.	145.	175.
Edo	97	97	150.	160.	60.	140 – 150
South West						
Lagos	97	97	150.	150	120.	120.
Ondo	97	97	160.	160.	70.	70.
North West						
Kaduna	97	97	150.	150.	120.	120
Sokoto	97	110	165. –170	165 – 170	55 - 56	58. – 65.
North East						
Bauchi	97 - 99	105 – 110	150	170.	60.	120
Taraba	97 – 110	110 – 130	150	165	70.	120

Geopolitical Zone / State	PMS		Diesel		Kerosene	
	Urban	Rural	Urban	Rural	Urban	Rural
South East						
Enugu	970	97. – 100.	135	135 – 140	120.	120 – 125
Imo	110	110	140.	150.	100	110
North Central						
Benue	97.	105.	150.	170.	105.	115.
Plateau	97.	100	155.	170.	100.	115

Source: Market Spot Price Survey

What is the Way Forward? Continuing contestations over the removal of subsidy clearly show that the matter of petroleum pricing in Nigeria remains an unresolved issue. Based on the reviews undertaken above, some preliminary observations and recommendations can be made.

The first observation that needs to be made is that a pricing scheme which is based on importation and the need to ensure import price parity is not in the long run interest of the national economy. Domestic refining necessarily has to be the basis of long term pricing.

In deciding on the pricing model to adopt, due cognisance needs to be taken of the status of the country as a net exporter of petroleum and member of the Organisation of Petroleum Exporting Countries.

The existing model, based on import parity and the PSF is riddled by corruption. A mechanism which will endure needs to be more transparent and less prone to abuse.

Administratively determined prices which lead to periodic quantum leaps in prices are sources of unhealthy shocks to the national economy. Some combination of market and rule-based mechanism of price determination ensures a more flexible and seamless determination of prices in small incremental magnitudes which do not constitute major shocks to the economy.

Even if in the long run there is a need to adopt a fully market based pricing scheme, the process leading to that would need to be gradual and involve a number of conditions to be attained at each stage of its evolution. Such conditions would include, the attainment of stable power, the improvement of domestic refining capacity, the development of efficient mass transit transport systems, particularly rail

transportation and infusion of competition into the downstream sector of the petroleum industry.

Based on the foregoing, our recommendations are as follow:

1. **A revival of domestic refining through existing refineries and promotion of new refineries.**

Our domestic refineries must be made to work. Appropriate incentives need to be worked out to attract new investment in refining. While domestic refining by itself is not sufficient to guarantee product price stability, there are clear gains to be derived from domestic refining as opposed to imports.

There are the overall gains in employment and general economic activity. There are also the obvious savings in freight and insurance costs. In addition to these, domestic supply of products will relieve the destabilizing pressure of import dependence on the exchange rate. It is worth emphasizing that a reform policy based on importation of refined products is inherently destabilizing for the domestic economy. Importation necessarily puts pressure on the exchange rate of the naira. Since the exchange rate is one of the two major determinants of the domestic price of petroleum products in an import based reform regime, a destabilizing mechanism becomes automatically a feature of the system as earlier indicated.

2. **A re-institutionalisation of a policy of differential between the price of crude for domestic consumption and for export.**

As long as the domestic prices of products continue to be tied to the international price of crude, the instability in pricing will remain. It is in recognition of this that we propose a re-introduction of a modified policy of guaranteed crude price for domestic consumption. Rather than returning to the fixed guaranteed price as earlier operated, we propose a price band within which the price of crude for domestic consumption can fluctuate.

As for the specific band, we propose the cost of extraction and delivery to the gates of refineries as the floor plus a fluctuating factor which is the target inflation rate set by government policy in the current year. The adoption of this mechanism will ensure a stable price regime that will allow economic actors make plans.

It should be emphasized that the guaranteed price should not be on offer to only NNPC, but to all refiners and to the limit of the crude actually refined for domestic consumption. Given that in the short run, there are no domestic refiners, tenders should be opened for the domestic crude for potential refiners to bid with clear timelines on domestic refining. In the short term before their domestic refining infrastructure is established, which should not exceed two years, bid winners will be allowed to arrange off-shore contract refining.

3. Promotion of Competition

The downstream sector, as presently constituted, is characterised by industry dominance by NNPC and general monopolistic tendencies. The sector needs to be opened up to competition. We need to design strategies for opening up monopoly assets and infrastructure (such as storage depots and pipelines) to competitors, who must of course pay economic fees.

The role of PPPRA or whatever regulator is adopted would then be to carry out analyses of the economics of refining to establish the ceilings beyond which wholesale and retail prices cannot be charged based on the amount charged refiners for crude. Price ceilings, as opposed to fixed prices, allow for competition. They also give an indication of the degree of competition in the market. If all sellers offer products at the price ceiling, this is an indication of absence of competition.

It needs to be recognised and emphasized that the implicit subsidy implied by the guaranteed crude price scheme needs not undermine competition and deregulation. Examples abound the world over where subsidies continue to be provided in deregulated and competitive environments. The agricultural sectors of the economies of the United States and other OECD countries are competitive and deregulated. Yet, agricultural subsidies continue to be provided daily. In like manner, a number of drug subsidy schemes exist in various countries of the world. Yet, the pharmaceutical industry remains deregulated and competitive.

Conclusion: The issue of pricing of petroleum products has dominated public discourse and policy contestations in Nigeria for decades. In this report an attempt has been made to situate the discussion within the experiences and practices of other countries. Competing pricing models were reviewed. The overall conclusion is that Nigeria will be better served by a revival of domestic refining and promotion of competition. Recommendations are made on how to achieve this within the framework of the implicit subsidy pricing model.

Finally, it needs to be pointed out that the focus in Nigeria today is on PMS, diesel and kerosene. Liquefied Petroleum Gas (LPG) prices do not enter into the discussion of petroleum products' pricing. In many countries, LPG pricing is an important subject of policy discourse. This is particularly pertinent given the environmental benefits of weaning consumers from fuel wood to gas for domestic cooking. Over time, there would be need for this to be thrust into the centre of the discussion of petroleum products' pricing.

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