Harnessing competitive forces to reduce fuel costs in small island economies

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The supply of liquid petroleum based fuel products in OECD countries is a competitive business, with multinational oil companies such as BP, ExxonMobil, Shell and Total competing with each other to generate profits. In the remote small-island states such as in the Pacific or Caribbean, fuel markets are considered too small to have such beneficial competition. This paper highlights how two of the smallest Pacific small island states—Samoa and American Samoa—have harnessed competitive forces to lower fuel prices, resulting in economy-wide benefits. Understanding the ‘Samoan models’ has important implications for other small island states concerned with spiralling fuel costs and their adverse developmental impacts.

The importance of fuel in small island economies

For most small island states, imported fuel constitutes the main source of commercial energy, mainly in the form of motor gasoline (mogas), gasoil (diesel) and kerosene (principally for jet aviation turbine fuel). The main uses are for transport, industry, agriculture, and commercial requirements. In addition, the bulk of power generation is diesel-based, which typically accounts for 50 per cent of diesel demand in small island states. Fuel costs therefore have a high impact on all aspects of island life, and keeping fuel costs at ‘fair and reasonable’ levels is a priority developmental objective. However, fuel costs are high in small island states: Figure 1 shows the wholesale price of diesel in the Pacific small island states compared to the relevant reference price for the region, that is, the mean of Platts Singapore (MOPS) traded spot-price average. The average price of fuel in the Pacific region is significantly higher than the benchmark average.

Competition theory suggests that multiple suppliers competing for market share will eventually supply the product at the lowest price. More efficient suppliers will find ways to break into higher priced markets, thus driving down prices for a given quality level. However, for fuel supplies in the small island states such competition is often not feasible given the small size of the market.

Moreover, high shipping costs due to remoteness, intensive multiple handling through island transshipment entrepots, and small, sub-optimal shipment sizes conspire to yield relatively high landed fuel costs.
Consequently, in the Pacific region, as elsewhere, there has been a virtual absence of new suppliers for land-based fuels over the past 20–30 years, leading to supply by monopolistic or oligopolistic multi-national oil companies, further raising fuel costs. While remoteness is a natural constraint which is difficult to overcome, two Pacific island countries, namely Samoa and American Samoa, have taken effective steps toward reducing fuel costs. They have done this by

- reducing their reliance on fuel terminals owned and operated by multi-national oil companies, thereby lowering entry barriers to new suppliers
- promoting competition between potential fuel suppliers through periodic international tenders
- ensuring effective regulation through regular formal price reviews that enforce the terms of the successful tender.

Consequently, the two Samoas, with populations of only 177,000 (Samoa) and 58,000 (American Samoa), now outperform their much larger island neighbours in having the lowest fuel prices (before tax) in the region.

Figure 1  Diesel price\(^a\) in Pacific small island states compared to the global mean, July–December 2003

\(\text{\footnotesize (a) wholesale price, excluding excise or tax}\)

Comparative fuel price analysis

This analysis examines fuel pricing data\(^1\) for diesel from the island economies of the Pacific region for the period July–December 2003.\(^2\) In order to avoid any pricing distortions related to government revenue collection, we use wholesale fuel prices less any excise or taxation applicable. Fuel prices quoted include

- f.o.b. fuel cost from international suppliers
- freight to the islands
- insurance, ocean losses, wharfage and other related charges
- oil company distribution and overheads (including head office, financing, and regional charges)

- oil company margins (often calculated as an after-tax percentage of capital invested).

A comparison reveals a wide variation in fuel prices and relative volumes across the region (Figure 2).

The size of the symbols in Figure 2 is directly proportional to the total fuel consumption, which is a key factor driving efficient logistics costs. Countries within the drawn circle are performing unexpectedly well in terms of their fuel price. The average pre-tax diesel prices in American Samoa and Samoa were only 60–70 per cent of the prices in the much larger markets of Papua New Guinea and New Caledonia, and only 40–45 per cent of the prices in the comparable size markets of Federated States of Micronesia

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Notes: Wholesale diesel price and annual volume (average July–Dec 2003; without excise and tax)
and Palau. While Fiji and Solomon Islands also show low prices, collectively, only American Samoa and Samoa consistently have the lower prices than their total annual volumes alone can explain.

**Competition in practice: the experience of the Samoas**

How can one explain the low fuel costs in Samoa and American Samoa, and in part in Solomon Islands, despite their apparent size disadvantage? For Solomon Islands, the reasons lie in a combination of non-replicable factors such as fortunate logistics (through import co-shipping with its much larger neighbour Papua New Guinea) and strict price regulation. For Samoa and American Samoa, however, the answer lies in a workable and replicable ownership, competition and regulation model:

- American Samoa and Samoa have publicly owned fuel import terminals, i.e., the terminals are not owned by multi-national oil companies
- both countries periodically (every 3–5 years) call for international tenders for fuel supplies and for the operation of their terminals
- moreover, both countries rely on rigorously enforced, formula-based fuel price reviews, which are applied on a monthly basis.

American Samoa and Samoa have therefore overcome the lack of competition within the market for fuel by successfully developing a competition model for the market. As a result, in both countries multi-national oil companies compete every few years for both supply and terminal operation, aware that if they lose they will be locked out of the market (for three years in American Samoa and five years in Samoa). Consistent with best-practice theory (Klein 1998) on concession rebidding, supply risk is minimised by pre-selecting only those suppliers with the regional infrastructure available to reasonably support the forecast volume and provide the technical support to service the market. In addition, both countries have overcome their small-scale disadvantage by nationally coordinating their fuel volume purchasing, with shipment size and bulk storage optimised for maximum cost effectiveness.

Independent ownership of the fuel terminals in both Samoa and American Samoa was a key factor in avoiding asset valuation pitfalls (Klein 1998) which could otherwise have increased risk and uncertainty for potential new suppliers. This ownership, competition, and regulation model, whereby the operation of a publicly owned terminal is periodically tendered out to pre-qualified multi-national oil companies, with a terminal fee paid to government for the purpose of funding maintenance and capital works at the terminal, has worked well. In Samoa, two tenders have been awarded to date, the first in 1998, and the second in 2003. The 1998 tender was awarded to Mobil (now ExxonMobil), leaving the second supplier, BP, without any business. BP was given the ultimatum to leave Samoa at short notice. The 2003 tender was won by Shell, thus obliging Mobil, under the terms of their 1998 contract, to sell their terminal to the government.

In American Samoa, the process started after the US Navy handed over their surplus World War II fuel storage facilities to the island government at the end of the war. The government set up an Office of Petroleum Management and, over the years, contracted out the six operations to a series of private companies. In the late 1990s, Mobil won the operating tender and the lion’s share of supply in American Samoa. Since then,
terminal operation has moved from Mobil to BP and, in early 2005, to a new local company, Petroleum Services Inc, while Mobil and BP retain joint supply.

The main difference between these models is that Samoa offers fuel supply on a ‘single supplier exclusive’ basis for the entire period, whereas, in American Samoa, multiple suppliers are actively encouraged. The American Samoa Power Authority (ASPA), which accounts for half the fuel used in American Samoa, actively encourages two suppliers by awarding 65 per cent of its annual volume to the company offering the best value, with the balance being offered to the second-best bidding company, but at the price and conditions accepted from the winning bidder. Having secured base volume through ASPA, the two successful bidders then compete within the American Samoan domestic (retail, industrial) and export (for example, fishing fleet) market to supplement their volume.

Conclusion

The two Samoan examples show that even in the smallest of the small-island economies, beneficial competitive pressure can be brought to bear on powerful multi-national oil companies. The Samoan experiences provide a basic and replicable blueprint for other small island states in how to use competition to lower the price of a critical input such as fuel.

Notes

1 Data collected on a bi-monthly basis by the office of the Petroleum Adviser for the Pacific Islands Forum Secretariat.
2 Diesel and Mogas account for 60 per cent of fuel consumption in the Pacific. The findings are similar for Mogas and are therefore not elaborated. The other major fuel product, kerosene (including jet aviation turbine fuel; which accounts for 20 per cent of total fuel volume) is not considered except as a component of the total volume, since its local price is often subject to international airline contracts negotiated and executed offshore.

References


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