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Fossil fuel subsidies in the Pacific island context: Analysis of the case of Kiribati

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ABSTRACT

Kiribati is highly vulnerable to climate change induced sea level rise. At the same time, the country is also very dependent on fossil fuel imports. Kiribati uses price controls and tax exemptions to make fossil fuels more affordable for low-income households. This study reviews the subsidies on consumption of fossil fuels, specifically gasoline, diesel, and household kerosene in Kiribati and investigates their macroeconomic, fiscal, distributional, and environmental impact. The subsidies are quantified using price gap approach. Over a five year period, the subsidies were on average AUD 4.2 million when using 2011–2015 data with 2015 tax policies. This is equivalent to 2.2 per cent of Kiribati GDP. Over 2011–2014 the average fiscal impact would have been equivalent to 3.7 per cent of government revenues and 29 per cent of government health expenditure. Apart from being a fiscal burden the subsidies increase greenhouse gas emissions and make Kiribati even more dependent on fossil fuel imports and more vulnerable to volatility in international fuel prices. No evidence was found to support the argument for using the subsidies to support low-income households. In fact, there are signs of considerable leakages to high-income households, which is consistent with findings from studies in other countries.

1. Introduction

Pacific Island countries and territories (PICTs) are considered among the most vulnerable places to global climate change induced sea level rise. Kiribati consists mostly of low lying atolls between 2 and 3 m above sea level (Government of Kiribati, 2014). Since the forecast for sea level rise is between 0.26 and 0.82 m by the end of the century (IPCC, 2014), Kiribati is in an obviously threatened situation.

There has been more and more push in the world for solutions to reduce global greenhouse gas emissions and move away from consumption of fossil fuels to mitigate the impact of climate change. The latest example of increased political will displayed by world's governments to alleviate climate change impacts was the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP21) in December 2015 in Paris. Kiribati, among other PICTs, has been very vocal in promoting UNFCCC goals.

While countries have been working to reduce the world's dependency on fossil fuel consumption, a key contributor to climate change,[1] it has been argued that at the same time huge amounts of money are being spent to support production and consumption of fossil fuels. The Overseas Development Institute (ODI) and Oil Change International estimated that in 2015 G-20 countries spent 452 billion USD on subsidising the production of fossil fuels (Bast et al., 2015). The International Monetary Fund (IMF) has also estimated that in 2013 post-tax subsidies on consumption of energy were 4.9 trillion USD, or 6.5 per cent of global gross domestic product (GDP) (Coady et al., 2017). The same study estimated that eliminating these subsidies would result in a cut in global greenhouse gas emissions by over 20 per cent - a significant amount. The International Energy Agency (IEA) estimated global fossil fuel consumption subsidies at around USD 490 billion and dropping to USD 325 billion in 2015, partly due to subsidy reform and partly due to lower oil prices (IEA, 2016, 2015).

Subsidies on fossil fuels not only increase greenhouse gas emissions contributing to climate change but they are also generally seen by economists to encourage wasteful consumption of resources. Fossil fuel subsidies are often politically motivated and justified by assisting the poor (see Sdralevich et al., 2014). Nevertheless, many experts feel that generalised subsidies on fuel are an ineffective way of targeting assistance to the poor (Coady et al., 2015; Komives et al., 2005).

Kiribati is listed by the United Nations as a least developed country (United Nations Committee for Development Policy, 2016) with latest figures from 2006 showing 22 per cent of the population living below

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[1] CO_2 from fossil fuel combustion and industrial processes accounted for 65 per cent of greenhouse gas emissions in 2010 (IPCC, 2014).

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the national poverty line (KNSO and UNDP, 2010). Although very vulnerable to climate change induced sea level rise, the Government of Kiribati also applies price controls to some fossil fuels in order to keep them affordable for the poor. Governments of small island developing states (SIDS), often lack resources, capacity, and data to formulate effective and up to date policies. Due to the observed ineffectiveness of fuel subsidies elsewhere in the world, subsidies on fossil fuels may be a policy applied by SIDSs that needs to be reviewed. This article is based on research done as part of Pacific Community's (SPC) technical assistance to Kiribati (SPC, 2017). It attempts to quantify the extent of fossil fuel subsidies in Kiribati using the price gap approach on three main fuels: diesel, gasoline, and kerosene for household use.[2] It then looks at whether these subsidies, if any, are an effective policy for helping the poor and economic development in Kiribati in general.

2. Background information

2.1. Efficiency and effectiveness of subsidies

Fossil fuel subsidies, like any subsidies, are not generally favoured by economists as they can lead to allocative inefficiency in the economy. It is generally believed that subsidising fossil fuels encourages their wasteful consumption and leads to economic inefficiency (IEA et al., 2010). In the case of fossil fuels, environmental externalities are also present, meaning that subsidies on fuels can lead to an even greater level of consumption above what would be economically efficient. In fact, it is argued that corrective taxes need to be applied on fossil fuels for them to be priced at an optimal level (Clements et al., 2013; Parry et al., 2014; Parry, 2009).

In Kiribati, the main objective for fuel subsidies is to make fuels affordable to low-income households. However, studies elsewhere in the world have shown that fuel subsidies are often not a good way for targeting low-income households (see Gangopadhyay et al., 2005; Sdralevich et al., 2014). Research by the International Monetary Fund (IMF) based on reviewed studies found out that well over half of subsidies on gasoline goes to the top quintile of household expenditure (Coady et al., 2015). They argue that when targeting the lowest 40 per cent of households by income through gasoline subsidies, the cost to government budget of transferring one dollar to the target group is 14 dollars. The same study pointed out that subsidies to kerosene generally had much less leakages to the top three income quintiles than gasoline although they were still considered ineffective compared to other policy options. Apart from the top income quintiles subsidies may also be captured by energy utility employees and contractors being an incentive for inefficiency in energy production (Komives et al., 2005). On the other hand, studies exist showing that while removing fuel subsidies can have a positive impact on the economy as a whole they may have some negative impacts on low-income households (Siddig et al., 2014). It is therefore suggested that subsidy reforms may need to be accompanied by policies to alleviate these impacts on the low-income households. A study on Indonesia found out that removal of fuel subsidies could reduce poverty if the savings were allocated to government spending (Dartanto, 2013).

2.2. Kiribati energy sector background

Kiribati, both a small island developing state and a least developed country as classified by the United Nations Committee for Development Policy, is heavily reliant on imported fuel. Apart from biomass (coconut shells, husks, and fuel wood), practically all energy consumed in Kiribati is produced using fossil fuels (see Fig. 1). According to Bacon and Kojima (2008), in 2006 the vulnerability[3] of Kiribati to oil price

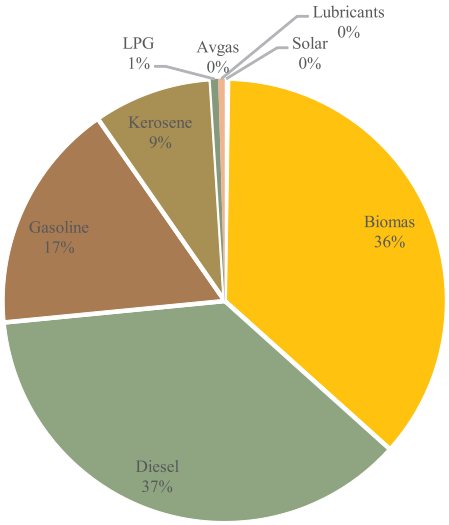

Fig. 1. Kiribati primary energy supply in 2014.
Source: SPC and Government of Kiribati data.

increases was 7.7 per cent of GDP, showing a big increase from 2.2 per cent ten years earlier. Davies and Sugden (2010) found out that during 2008 when commodity prices were on the rise, the value of net imports as a percentage of GDP increased in Kiribati more than in any of the 31 countries in their comparison. The main reason for this was petroleum imports. Kiribati government also acknowledges this vulnerability and is concerned about the limited revenue base and high dependency on imports which make the country exposed to external shocks in food and fuel commodity prices (Government of Kiribati, 2014).

Kiribati has a price control act in force to control the retail prices of 13 selected goods, including gasoline and kerosene. While the prices of non-fuel price controlled goods are set using a formula based on actual import costs, gasoline and kerosene prices are set by the President's office through a political process. Gasoline and kerosene prices have remained fixed in the Gilbert Islands[4] since March 2009 with retail prices at AUD 1.19/l for gasoline and AUD 0.95/l for kerosene (see Fig. 2). In addition, it seems that, although not included in the price control act, diesel fuel price is in practise controlled by the government as well. Since March 2009 the retail price of diesel has changed only twice and is currently AUD 1.45/l in the Gilbert Islands. As can be seen in Fig. 2, fuel prices were more volatile prior to 2009. The three fuels were also priced much closer to each other compared to the prices after March 2009.

Kiribati implemented value added tax (VAT) on most goods in April 2014. However, all three fuels are exempt of the VAT of 12.5 per cent. Diesel supplied to Public Utilities Board (PUB), the electricity provider in South Tarawa, and all kerosene are also exempt from excise duty (see Table 1). For the three fuels, there was no change in the overall tax burden in the 2014 tax reform. In addition, an import levy of USD 30/m^3 or USD 30/875 kg whichever is greatest is imposed on imported goods. The collected levy is used to subsidise shipping of goods to outer islands. In the Gilbert Islands, shipping of goods from South Tarawa to the outer islands is fully refunded from the fund. Thus, the price-controlled items are expected to have the same price on the outer islands as in South Tarawa.

[2] Kerosene for aviation use was excluded.
[3] Defined as ratio of the value of net oil imports to gross domestic product.
[4] Kiribati consists of three island groups: Gilbert Islands, Line Islands, and Phoenix Islands. About 90 per cent of the population lives in the Gilbert Islands (Kiribati National Statistics Office, 2016b).