

*Chapter 13***MODELLING ELECTRICITY CONSUMPTION
FOR THE FIJI ISLANDS***Paresh K. Narayan and Baljeet Singh***1. INTRODUCTION**

The relationship between energy consumption and economic growth has been debated quite extensively in the literature, yet the direction of the causality relationship remains unresolved. The debate has focused on whether energy consumption causes economic growth or economic growth causes energy consumption, or whether a two-way relationship exists. From a policy viewpoint, the direction of causality between these variables has important implications (Narayan and Smyth, 2005; Asafu-Adjaye, 2000; Ghosh, 2002). For instance, a finding in favour of a positive unidirectional causality running from GDP to electricity consumption is a strong justification for energy conservation policies, such as electricity rationing, for this finding implies that a country is not dependent on energy for growth and development. However, if unidirectional causality runs from electricity consumption to GDP, then reducing electricity consumption could lead to a fall in income. This is because a finding confirming evidence in favour of energy positively causing GDP implies that (1) the country in question is energy dependent, and (2) negative shocks to energy, such as shocks leading to higher energy prices or energy conservation policies, will negatively impact GDP.

Like other developing countries, Fiji requires large volumes of energy for producing goods and services, and as in most non-oil producing countries its energy demand is met by large quantities of imports. Electricity is a crucial input in the production of goods and services in Fiji. It is a major input component for several sectors, including manufacturing, communication, education, commercial, entertainment, and construction. Table 13.1 shows the growth of electricity consumption and real GDP for Fiji. The average growth in electricity consumption over 10-year intervals has outpaced the growth in real GDP. Both electricity consumption and real GDP growth have generally shown a downward trend and similarly the electricity consumption growth to GDP growth ratio has also declined over the same period.