

Chapter 6

FDI, Energy Consumption, and Institutional Quality: The Case of Africa

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ABSTRACT

Being economic boosters, foreign direct investment (FDI) and financial sector development (FSD) are highly recommended for developing countries. It is therefore critical and important to examine the impact of both FDI and FSD on energy consumption. This chapter examines the link between FDI, FSD, and energy consumption in Africa and also the role of institutional quality in this context. The results establish that both FDI and FSD have a significant positive impact on energy consumption. It is also established that there is an inverse relationship between institutional quality and energy use. Finally, it is proved that quality institutions moderate the link between FDI, FSD, and energy use in Africa.

INTRODUCTION

Studies in the past and recent times have both found strong and compelling reasons for the need to attract foreign direct investment (FDI) into economies and the need to develop one's financial sector. For instance, studies have documented that the inflows of FDI into economies positively supports the growth of innovation, increase in adaptation of CSR, enhancement in skills and talents development, increased productivity and enhanced good corporate governance and all these finally propel economic growth for a nation (Borio, 2011; Nasir, Ali and Khokhar, 2014; Nyeadi *et al.*, 2020; Albuquerque & Neves, 2021;

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Hanefah *et al.*, 2020). The inflows of FDI can also increase the financial morsel and innovative levels of host countries so as to enable them adopt energy saving technologies as well as the adoption of cleaner energy means so as to enhance the life and environment of host economies (Polat, 2018).

It is however argued that inflows of FDI may not only put so much pressure on energy consumption in developing countries that are currently battling with energy supply and environmental problems but it will lead to increase in the consumption of non-renewable energy which has a lot of negative consequences on the environment (Polat, 2018). This argument supports the Pollution Haven Hypothesis which argue that FDI may be a way of outsourcing “dirty industries” to developing countries as developing countries have softer environmental laws and enforcement (Polat, 2018). This therefore increases the chances of energy consumption and the use of more non-renewable energy in developing countries with the inflows of FDI.

A number of empirical studies have concluded that FDI inflows introduces energy savings in host countries thereby improving local environment. These studies support the environmental halo effect hypothesis of FDI (Jiang *et al.*, 2014; Azam *et al.*, 2015; Doytch and Narayan, 2016). There are also studies on the other hand that support the Pollution Haven Hypothesis demonstrating that inflows of FDI leads to higher energy consumption (Jebli *et al.*, 2019; Khandker, *et al.*, 2018).

On the side of financial sector development (FSD), countless studies have documented the positive link between the development of one’s financial sector and energy consumption (Yue *et al.*, 2019; Saini and Nego, 2018; Beladi *et al.*, 2013). However, micro-economic theories posit that FSD lowers household budget limits as it makes available several means of accessing financing at lower interest rates and makes one’s investment more liquid. This limitless access to finance also leads to increase in household consumption such as the use of automobiles, housing, electrical appliances which obviously lead to increase in household consumption of energy (Sadorsky, 2012). Notwithstanding the above argument, it is noted just like FDI, FSD can also propel the adoption of technologies that reduce energy consumption or shifts consumption to clean energy (Rezagholizadeh *et al.*, 2020). In their study using Iranian economy, Rezagholizadeh *et al.*, (2020) concluded that FDS leads to higher consumption of renewable energy which helps to reduce environmental hazards.

From the above, it is noticeable that there is inconclusiveness in both theory and empirical front on the link between FDI, FSD and energy consumption nexus. This therefore means more research works are needed on this link so as to shed more light on the link. This study therefore intends to fill this gap by comprehensively examining the separate impact of FDI inflows and FSD on the amount of energy consumed in Africa. Besides, the moderating role of institutional quality on the FDI, FSD and EC link in Africa will be explored. To the best of knowledge, this is the first study in Africa that will examine in a comprehensive manner the above link using panel corrected standard errors (PCSE) and seemingly unrelated regression (SUR) estimation techniques. Besides, this study has extended the literature beyond other previous studies by also investigating the moderating role of institutional quality on the above nexus in Africa. Findings therefore have a lot of policy implications to African economies.

TRENDS OF FDI FLOW IN AFRICA

As indicated earlier, FDI flow into Africa was abysmal until the beginning of the 21st century, when a massive increase was recorded in its flow. From table 3 below, one can see that the inflows into the region were less than \$7 billion per annum before the year 2000. This figure rose to an average of \$30.7

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