



Income inequality, natural resources dependence and renewable energy

Dzul Hadzwan Husaini^a, Shazali Abu Mansor^b, Hooi Hooi Lean^{c,*}

^a Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia

^b i-CATS University College, Malaysia

^c Economics Program, School of Social Sciences, Universiti Sains Malaysia, Malaysia

ARTICLE INFO

JEL classification:

Q20

I30

Q40

Keywords:

Income inequality

Natural resources dependence

Renewable energy

Panel data analysis

Cross-sectional dependence

ABSTRACT

High reliance on non-renewable energy sources is a commonly-cited driver of increased income inequality. This study hypothesizes renewable energy can alleviate this issue due to its ability to replace non-renewable energy. This paper uses panel data of 10 rich natural resources countries in Asia for a sample period of 1996–2020. The Dynamic Common Correlated Effects model is employed. This study discovers natural resources dependence causes income inequality to widen. Furthermore, renewable energy significantly moderates the unfavourable impacts of natural resource dependence on income inequality. This study recommends the establishment of more captive renewable energy power plants in India, Pakistan, Malaysia, Mongolia, and Vietnam. This study also proposes the creation of Sovereign Wealth Funds which are dedicated to establishing renewable energy ecosystems in Bangladesh, China, Indonesia, and Thailand.

1. Introduction

Income inequality is a policy conundrum for many countries, because a more uneven income distribution in an economy results an overly small ratio of individual's income to national income, which leads to insufficient general demand (Savvides and Stengos, 2000; Kavaya and Shijin, 2020). The low-income group may also be compelled to borrow more in order to maintain their basic needs. This type of credit growth will eventually contribute to financial crises (Lee et al., 2022).

In principle, natural resources revenue should offer huge benefits to the development of an economy. It can be used in social sectors to enhance public health and education. Good health will increase productivity (Djafar and Husaini, 2011), while better education will help the poor to improve their standard of living (Ramli et al., 2016), thus improving national income inequality. Additionally, revenue from natural resources can be used to finance the social safety net program such as cash aid to low-income earners. Energy subsidy programs financed by the natural resources revenue also helps to secure the domestic economy from the risk of commodities prices fluctuation (Husaini et al., 2019a,b; Husaini et al., 2023). This in turn protects the low-income community from high cost of living (Husaini and Lean, 2021) and addresses income inequality.

However, empirical evidence has shown that natural resources do not always lead to economic development (Yang et al., 2021; Alssadek

and Benhin, 2023). This situation is known as “natural resource curse”, and typically occurs when numerous social, political, and economic elements interact with and change natural resources, slowing economic growth and obstruct the progress of economic development (Badeeb et al., 2016). A government's poor management of and underinvestment in natural resource revenues are the causes of the natural resource curse (Badeeb and Lean, 2017; Badeeb et al., 2016).

Possessing natural resources does not guarantee that a country will have a higher energy security. Even though some developing countries have abundance of natural resources for primary energy, they are often heavily dependent on imported end-use energy (Husaini and Lean, 2022b). This is because most developing countries lack the technologies and expertise to convert primary energy into final energy (Shams, 1978; Lowinger, 1982; Kemp, 2021).

When natural resources prices rise, the end-use energy prices are compelled to rise faster than the primary energy prices. The revenue from primary energy is unable to offset the increase in end-use energy. In certain circumstances, a government will reduce energy subsidies in order to ease their fiscal strain. The withdrawal of energy subsidies has more negative effects on the middle- and low-income groups and increases income inequality. Lower energy subsidies will increase energy costs and the overall price levels (Husaini and Lean, 2021). The low-income households are thus more financially burdened, because they spend a larger portion of their income on energy (Celasun et al.,

* Corresponding author. Economics Program, School of Social Sciences, Universiti Sains Malaysia, Gelugor, 11800 Penang, Malaysia.
E-mail addresses: hooilean@usm.my, learnmy@gmail.com (H.H. Lean).