



Review on Environmental Kuznets Curve and Income Inequality

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INTRODUCTION

In 1955, Simon Kuznets [1] introduced his homonymous curve, concluded to an inverted-U shape between growth and income inequality.

In 1991, Grossman and Krueger [2] finalized in a same shaped curve between income and environmental degradation, presenting the widely known Environmental Kuznets Curve.

Recent bibliometrics [3] have revealed that in period 1994-2022 EKC have attracted the scientific interest. Many works are published in the field [4-9]

Among them, 70 documents include in their models the Gini coefficient, which measures the income inequality [10].

The scope of this poster is to present a review of that documents in terms of validation, rejection, partially acceptance and uncertainties of EKC theory.

EKC VALIDATION (38 documents)

In individual countries terms, EKC is validated for Australia [11] and China [12], mentioning either that both environmental sustainability and full employment are goals well within, or that powerful and wealthy may achieve rapid economic growth with little environmental sacrifice.

In grouped countries research, EKC is validated for BRICS, in which narrowing the income gap between the rich and the poor is suggested to improve environmental quality [13] and 38 OECD countries, where it is emphasized to consider the mitigation of income inequality to achieve improvements in the environmental quality [14].

EKC REJECTION (13 documents)

Research for Bangladesh reveal that inequality increases when effective income is considered, leading to ecologically adjusted income distributions [15]

EKC is also rejected for Greece with a U – shaped curve, proposing improvements of transport infrastructure in large urban centers [16].

As for grouped countries research, increase in income inequalities, economic development, and per capita energy consumption increases CO2 emissions in the Next Eleven countries [17].

EKC PARTIAL VALIDATION (13 documents)

Only in short-terms, EKC is found in Brazil where economic agents of the urban than the rural regions have greater incentives to reduce their greenhouse gas emissions [18].

More equally distributed income is needed to achieve an EKC in transport and other industrial combustion sectors in 58 countries [19].

EKC UNCERTAINTIES (6 documents)

Research for China and India questions about EKC validity, mentioning the late words of Indira Ghandi that “poverty and need are the biggest polluters” [20].

Rapid economic growth is not an appropriate solution to overcome income inequality of an examination of 9 countries for period 1949-2010 [21].

CONCLUSIONS:

Except of basic socioeconomic indicators, Gini coefficient is needed to be included in EKC models, as its existence cannot be fully explained only by growth in quantitative terms but also in qualitative, respectively. As a result, the effects of income inequality to environmental degradation should be further analyzed in future research.

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