



# Studies of Environmental Kuznets Curve in Greece

Ioannis Mandalas, Nectaria Gizani, Iro Laskari, Niki Matsouki, Chara Tsipa and Efthimios Zervas\*

School of Applied Arts and Sustainable Design Hellenic Open University, Greece

## INTRODUCTION

Environmental Kuznets Curve (EKC) concerns the relationship between economic growth and environmental degradation. It was introduced in 1991 [1] and its initial inverted – U shape is same with the homonymous Kuznets curve, which described income inequality's reaction in economic growth's changes (Fig.1). However, other curves can also appear (Fig. 2)

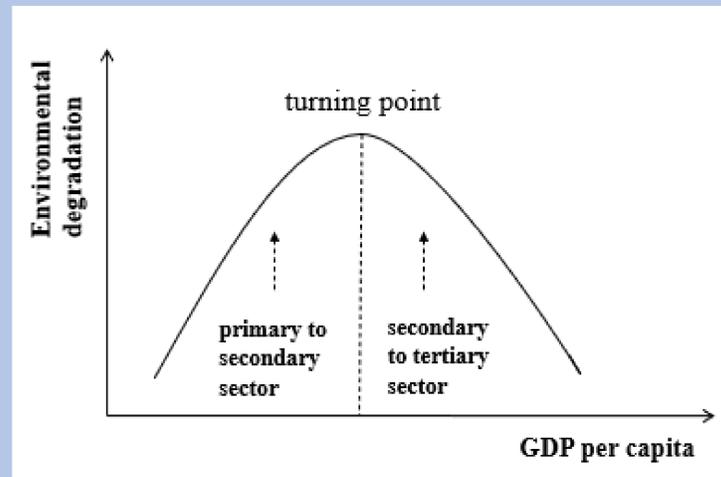


Fig. 1: Inverted U shape EKC

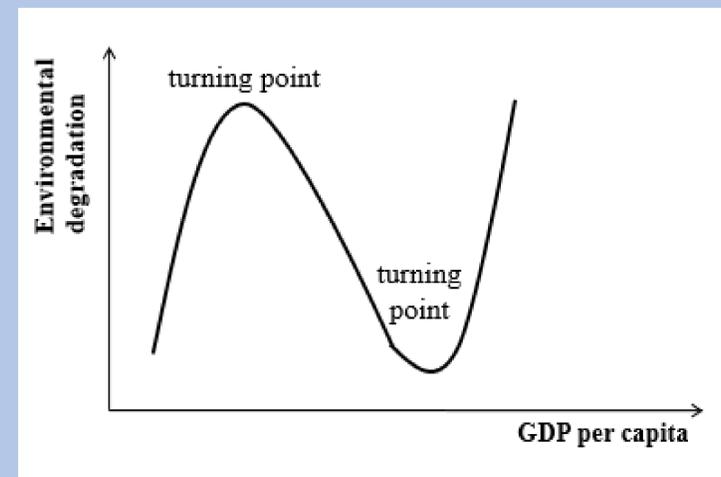


Fig. 2: N shape EKC

Since 1994, researchers from all over the world have been examining the validity of EKC in group of countries or individually. Methodology varies including mainly time series and panel data analysis. In Greece, little search has been conducted.

## METHODOLOGY

Using Scopus database and filtering by the accurate word sequence “Environmental Kuznets Curve”, we collected and registered over 2,000 scientific documents. As case study, Greece was examined in 5 papers [2-6]. From the references of those papers, other 3 works appear [7-9]. Those works use GDP per capita, energy consumption, trade openness and urbanization for independent variables. Dependent variables are CO<sub>2</sub>, SO<sub>2</sub> and O<sub>3</sub> emissions and smoke concentration. Data were driven through primary and secondary analysis (Auto Regressive Distribution Lag, Vector Error Correction Model).

## RESULTS

The relationship between the examined variables is either monotonically rising or U shape curve, concluding that economic growth leads to environmental degradation. Additionally, all documents concluded that EKC does not exist for Greece, whereas the authors make some policy suggestions to Greek authorities.

More specifically, they highlight the need of improving transport infrastructure in large urban centers; and propose to enhance the use of renewable energy and clean technologies.

Besides, the authors consider that Greek authorities should incorporate appropriate natural environment protection projects and emphasize that the core of the state's policy should be social prosperity and not only per capita income.

## CONCLUSIONS

Searching bibliography and finding only a few articles, EKC has not been valid for Greece. Coefficients of independent variables are positive, meaning that relationship between socio-economic indicators and environmental degradation is rising monotonically. As a result, it is suggested for policymakers to focus on improving both environmental consciousness and economic growth of Greek citizens.

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