

Investigating the Impact of Intangible Capital and Its Components on the Energy intensity of Iran Industrial Factories

*Saiedeh Ansari**

*Reza Roshan***

*Hadi Keshavarz****

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Abstract

The main objective of this paper is to investigate the effect of intangible capital and its components, including research and development capital, training capital and computer software capital, on the intensity of energy in industry sector of Iran. The findings indicate that variables used in the present study are non-stationary but Co-integration, which indicates a long-term relationship between them. Long-term coefficients of estimated research models that are estimated using the DOLS method in panel data show that intangible capital has a negative effect on the energy intensity, and the increase in the components of intangible capital has reduced the intensity of energy in the industrial factories of Iran. Impact coefficients of computer software, education and R & D on the energy intensity are 0.14, -0.3 and -0.08 respectively. In addition, impact of technology variable is -0.35. The findings indicate that with increasing costs of machine repairs to sell, the intensity of energy in the Iranian industry has increased, while the increase in the value added of the industry sector has reduced the energy intensity of this sector.

Keywords: Intangible capital, intensity of energy, Iranian industry sector, co-integration in panel data.

JEL classification: C33, E22, L60, Q43

*Master in Energy Economics, Faculty of Humanities, Persian Gulf University, Bushehr, Iran.
Email: saiedeh.ansari69s@gmail.com

**Associate Professor of Economics, Faculty of Business and Economics, Persian Gulf University, Bushehr, Iran. Email: re.roshan@pgu.ac.ir (Corresponding Author)

***Assistant Professor of Economics, Faculty of Business and Economics, Persian Gulf University, Bushehr, Iran. Email: hd.keshavarz@pgu.ac.ir

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