



## Natural resource rent and Human Capital Accumulation

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### Abstract

In this research, the relationship between total natural resource abundance and indicator of human capital (education and health) has been studied. Estimating a system of multiple linear regression models in 2010 and by using ordinary least squares (OLS) for a cross section of 47 RGI ranked countries, we find significant evidence that natural resource abundance, in most of the cases, crowds-out human capital negatively. The model with three set of the dependent variables identified to have heteroscedasticity, however, has no sign of self-autocorrelation and auto collinearity. Nonetheless, among all models, only one, with a dependent variable of public expenditure (percentage of total health expenditure) showed a positive and strong relationship with resource abundance. This model, moreover, has homoscedasticity and we can say that the error terms have constant variance.

**Keywords:** Human capital accumulation, Natural resource rent, resource curse, Education, Health.

### Introduction

The countries with plenty of natural resources are usually in the end list of the development indicators rankings, including human capital accumulation, according to notable number of the literature. It appears that the extracted revenue from natural resources is either not invested in the development infrastructures, or if it is the case, the output is not remarkable. Apart from that, one may ask that is this the nature of the resources that bring this malediction? If so, why we have contradictory examples?<sup>2</sup> Moreover, the human capital concept, including education and health, is considered to be of great importance to human development index. It is assumed as the engine of development and economic prosperity, inasmuch as the way to avoid the resource curse phenomena. See Bravo-

Ortega and De Gregorio (2005), Weber (2014), Philippot (2010), Aghion et al. (1999), and Birdsall et al (2000).

Accordingly, the research question is determining the link between natural resources abundance and the human capital indicators in a cross section of 47 countries. These countries are selected from the Resource Governance Index report (RGI). This index measures the quality of governance in the oil, gas and mining sectors of 58 countries.<sup>3</sup> Therefore, the scope of the research is to analyze the selected countries by the OLS multiple linear regression models. To answer the research question, we analyze our empirical analysis using data for 2010.

The subject appears to be important because when the extracted primary products e.g. mineral and petroleum ones bring prosperity for the developed countries, that are disadvantaged of these resources, the exporter countries, from another hand, are not benefitting from these resources in terms of human capital and economic growth. Furthermore, rich-resource countries are poor ones in terms of resource extraction technology. They need all the infrastructure and modern technology of exploration, drilling, extraction, refining, and even the transmission process from developed countries. Knowing the resource curse consequences may be useful for the public policy of the rich-resource countries.

Although growing number of scholars try to estimate how plenty of resources influence economic growth, less attention has been paid to how this abundance influences other social aspects such as human capital development. We can classify the literature that studies the correlation between natural resources and human capital into two categories; international and national scale.<sup>4</sup> It is also important to note that in a considerable

<sup>1</sup> National Iranian oil refining and distribution co.

<sup>2</sup> E.g. the resource-abundant countries that have at the same time high indicators of development.

<sup>3</sup> These nations produce 85 percent of the world's petroleum, 90 percent of diamonds and 80 percent of copper, generating trillions of dollars in annual profits. <http://www.resourcegovernance.org>

<sup>4</sup> i.e. some scholars did their studies within transnational scope e.g., Sachs and Warner, 1995, 2001; Gylfason, 2001; Papyrakis and Gerlagh, 2004a; Birdsall, Pinckney, and Sabot, 2001; Ross, M. L., 2001; Stijns, 2006; Philippot, L. M., 2010, and Katz et al., 2004 and others in regional