G Model
EXIS 228 No. of Pages 11

ARTICLE IN PRESS

The Extractive Industries and Society xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

The Extractive Industries and Society

journal homepage: www.elsevier.com/locate/exis

Review article

What conditions may foster an industrial development strategy based on extractive industries?

Lorenzo Mancini, María J. Paz*

University Complutense of Madrid, Spain

ARTICLE INFO

Article history:
Received 14 April 2016
Received in revised form 23 May 2016
Accepted 25 May 2016
Available online xxx

Keywords:
Industrialization
Extractive industries
Economic development
Dutch disease
Resource curse

ABSTRACT

Our work provides a selective survey of the literature on the relation between natural resources and industrialization, with a focus on extractive industries. The paper consists of three sections. First, it discusses the main problems identified by the scholars in relation to the abundance of natural resources with especial focus on extractive industries. Second, it addresses two dimensions of the nexus between natural resources and industrial development: a fiscal one and a productive one. Third, it critically examines the two dimensions in order to find the conditions needed to set up a strategy of industrial development applicable to the extractive industries. Then, it briefly discusses some relevant issues partially neglected in early literature, and then suggests insights for further research.

Contents

1. Introduction

The influence of an endowment of natural resources (NR hereafter) in shaping the economic, social, and political life of countries has been widely debated for decades. Recently, new works have emerged questioning the thesis known as resource curse, which posits a negative relationship between abundance of NR and country economic performance. Countering this argument, many scholars have pointed that this relationship is not always negative, whereas the political and institutional framework can be determinant.

Since 2000, the academic debate has gained prominence in a context earmarked by a global commodity boom which has also encouraged the proliferation of new economic strategies related to the exploitation of NR in developing countries. That has been especially the case of extractive industries, which have been strongly affected by rising prices and an increased demand during 2000–2014. Though since 2013 the upward trend has been reversed and the volatility of prices has increased, the debate over these strategies is still open. That is due to the fact that, alongside the resource boom, two factors have contributed to the spreading of such strategies: (1) the difficulty in imitating the Asian model of industrialization in African and Latin American

* Corresponding author.
E-mail addresses: lorenzo.mancini@ucm.es (L. Mancini), mjpazant@ucm.es (M.J. Paz).

http://dx.doi.org/10.1016/j.exis.2016.05.005
2214-790X/

developing countries, and (2) a critical review of the "Washington Consensus" vis-a-vis a "new" emergent consensus that looks more favorably to governmental intervention and industrial policy.

Given this background, found in both academic and political discourse, we operate from a presumption that the resource curse is neither inevitable nor irreversible. Precisely for this reason, our work assumes that it is possible to define a strategy of industrial development from NR. From here, the paper addresses two research questions, as follows: (1) what are the main economic problems that have hindered the industrialization in some resource-rich countries? And, taking into account these problems, (2) what conditions may foster a strategy of industrial development from NR?

The purpose of our research is to answer both questions through a critical review of the most significant literature on the topic. Our first aim is to synthesize and compare the main contributions, thus reflecting the current state of thought on the subject. It must be noted that the literature on NR is quite extensive and dispersed across different approaches, even within the same line of economic thought. Therefore, the selection of references, a key part of this study, has been done with the explicit intention of extracting the essential argument of each approach; that is, the most pertinent to the research questions.[1]

This paper differs from previous research going beyond a critical review of the resource curse literature (Di John, 2011) by interpreting the industrialization as an essential (though not unique) part of the economic development. Moreover, while we share early contributions on the relevance of domestic policy decisions in determining the impact of the exploitation of NR (Saad-Filho and Weeks, 2013), we move further by looking into what type of conditions and policies may foster a strategy of industrial development in resource-rich developing countries. We argue that sound economic policies should take into account both fiscal and productive dimension.

The paper is organized as follows. Section 1 looks into a critical review of the major problems associated with the exploitation of NR. Our findings leads us to distinguish three fundamental issues: (1) the macroeconomic problems which adversely affect the industrialization (Dutch disease), (2) those aspects associated with rent-seeking, resource dependence, and the distribution of incomes generated by the exploitation of NR (rentism), and (3) the difficulties to develop linkages with the rest of the economy (structuralist concerns).

In Section 2, we seek to identify the economic conditions which should be considered in a resource-based strategy of industrialization. The various contributions have been divided into two main categories: those affecting the productive dimension, and those concerning the fiscal dimension. We found a clear complementarity between these two dimensions, which is the result of an increasing "dialogue" between neo-structuralism and neo-institutionalism within the field of development economics.

Finally, Section 3 summarizes the main points of convergence and disagreement among scholars, thereafter synthesizing the answers to the research questions.

2. Problems related with natural resources exploitation

2.1. Dutch disease and de-industrialization

The phenomenon known as the Dutch disease (DD hereafter) is one of the main problems which have been associated with the exploitation of NR. In synthetic form, the DD suggests that a robust expansion of the aggregate income of the productive factor used in the exploitation of energy resources may affect the external competitiveness of other tradable sectors (especially the manufacturing and agriculture); it occurs mainly, but not exclusively, through an appreciation of the real exchange rate.

De-industrialization may result as a consequence of two main mechanisms (Corden and Neary, 1982; Corden, 1984; Krugman, 1987). First, the shrinking of the industry occurs directly, since employment, production, and other resources in the economy begin to move away from the non-booming tradable sector and become oriented toward the resources-intensive industry, assuming that this sector is associated with a relatively higher marginal product of labor resulting from the boom (resource movement effect). On the other hand, the increase of income generated within the economy leads to an appreciation of nominal currency exchange (assuming a positive income elasticity of demand for non-tradable products, the prices in this sector should rise relative to the prices of other tradable sectors); moreover, it stimulates the demand for both tradable and non-tradable products (consumption effect).[2]

In addition to these two mechanisms, scholars have also highlighted that the DD may debilitate the economic growth because the shrinking in the manufacturing affects a key sector of the economy where the learning-by-doing process takes place. Assuming that workers can move to the booming energy-intensive sector, the resulting crowding-out of their training would result in a progressive erosion of the human capital present in the economy (Kim, 1998; Bravo-Ortega and De Gregorio, 2005).

Scholars have further developed the investigation of the DD through the incorporation of more sophisticated theoretical models (Bruno and Sachs, 1982). It has been taken into account a more proactive role of macroeconomic intervention considering, for instance, the introduction of public subsidies to sustain the tradable sector negatively affected by the DD (van Wijnbergen, 1984; Gelb et al., 1988; Gylfason, 2001).

Two critical aspects deserve a special attention. First, the copious research that has been developed around the phenomenon of the DD has not reached a wide and robust consensus on whether all the mechanisms depicted in the theoretical models will ultimately arise and on how they actually interact with each other in a specific economic context. Some scholars prefer to stress the currency exchange effects (Caballero and Lorenzoni, 2007) whereas they do not reach a conclusive consensus on the empirical evidence vis-a-vis the overall impact of the DD, especially in terms of economic growth effects through real exchange rate appreciation (Magud and Sosa, 2010).

The second critical point is the consideration that the economic effects are essentially determined by market mechanisms, without taking into proper account the influence of the institutional framework and the specific productive structure. Hence, from this relative disregard to the institutions and the specific productive structure derives a difficulty of pure macroeconomic models to understand and explain why DD materializes in some countries but

[1] Though our interest is on extractive industries, we are also taking into account references that analyze natural resources as a whole, since most of the conclusions are also applicable to the extractive industries. Notwithstanding, as we will discuss, when we analyze case studies on specific sectors, our review will be focused on extractive industries.

[2] Assuming that the price of the former is determined by the international market (earliest models focused on small economies), the expansion of the demand may result in an increase of imports. Hence, prices in the non-tradable sector increase, as do input costs and wages, ultimately affecting the export competitiveness.