Institutional quality and environmental pollution: MENA countries versus the rest of the world

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A R T I C L E   I N F O

A B S T R A C T

Using data for over 100 nations over the years 2004–2007, this study examines the effect, of institutional quality on environmental pollution, focusing primarily on influences of corruption, and the shadow economy, and paying special attention to MENA countries. Controlling for a, number of factors, results show that both more corrupt nations and nations with large shadow sectors have qualitatively and quantitatively similar effects in yielding fewer (recorded) emissions; however, MENA nations have higher pollution rates. Policy implications are noted.

Published by Elsevier B.V.

1. Introduction

Pollution control has increasingly been on policymakers' agenda worldwide for the past three to four decades. Various policies have been enacted, with varying degrees of success, to either directly or

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indirectly influence economic agents to internalize environmental externalities. A key factor behind the success of these policies is the quality of institutions in a country. These institutions come in many forms – governmental, social and political – and are influenced by different factors – historical, cultural, etc. (see Acemoglu et al., 2005; Knack and Keefer, 1995; North, 1990). Within this overall framework, this research focuses on the environmental (pollution) impacts of two widespread key indicators of the quality of institutions – the degree of corruption and the extent of the shadow sector in a country.

Corruption and the shadow sector undermine the effectiveness of government institutions and thus render pollution control policies less effective. These activities are present to various degrees across different countries (see www.transparency.org and Tanzi, 1982). For instance, businesses operating without proper licenses or registrations are able to evade regulations and taxation through corruption or by operating in the shadow sector (see Goel and Nelson, 2012, for an example). The present research can be seen in the broader context of the literature on institutions and economic performance (see Knack and Keefer, 1995, for seminal work). While the underground economy and corruption are generally viewed as complementary (see Dreher and Schneider, 2010), they do not necessarily coexist in all nations. For example, Scandinavian countries are routinely viewed as being very clean with low levels of corruption (www.transparency.org). However, high tax rates in these nations still induce some businesses to operate in the underground economy.

The environmental pollution we focus on is carbon dioxide (CO_2) emissions. CO_2 emissions are generally tied to processes (industrial or transportation) that use large amounts of fossil fuels such as coal. However, CO_2 emissions are difficult, if not impossible, to measure precisely. The true overall effects of the shadow economy and corruption on pollution are less clear a priori – the presence of these illegal activities can make some polluters belligerent (in which case pollution would increase), while other polluters might take advantage of them to lower their recorded emissions. For instance, a polluting plant might relocate to the shadow sector (by not registering the business) or business owners might pay a bribe to not report (or underreport) emissions. The formal analysis below will examine which of the two influences is more powerful and whether corruption and the shadow economy have dissimilar effects. Herewith we would like to answer the following question: What impact does a large shadow economy or widespread corruption have on CO_2 emissions?

In the context of the literature, some attention has been paid to the corruption-pollution nexus (see Cole, 2007; Damania et al., 2003). However, research on the shadow economy and its effects on pollution is more recent, and in relative infancy (Baksi and Bose, 2010; Biswas et al., 2011). Furthermore, formal comparisons of the relative influences of the shadow economy and corruption on pollution have not been performed in the literature.[3]

In relation to international policy formation, inter-country and intra-country mandates seem more geared toward corruption control, while efforts to curtail the underground sector are mostly initiatives of individual governments, especially in nations that are facing declining tax revenues due to a large shadow sector. Therefore, evaluation of the relative effects of corruption and the shadow economy would result in more effective policy initiatives.

Another focus of this research is the Middle East and North Africa (MENA) region.[4] With a population of about 300 million, the MENA region "is an economically diverse region that includes both the oil-rich economies in the Gulf and countries that are resource-scarce in relation to population…The region's economic fortunes have been heavily influenced by two factors – the price of oil and the legacy of economic policies and structures that had emphasized a leading role for the state", (The World Bank, http://go.worldbank.org/7UEP77ZCB0). Despite its geographical, historical and religious significance (which shaped institutions over time), formal research focus on this region

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[3] A part of the reason behind the lack of comparison could be that some might not view the shadow economy and corruption as entirely distinct, but rather as intricately intertwined.

[4] Countries comprising the MENA region include Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen (http://go.worldbank.org/7UEP77ZCB0).