



Oil and Infrastructure Expenditures in Saudi Arabia

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Abstract

The country of Saudi Arabia has been generating increasingly more revenue from sales of crude oil in recent years. As a result, the country's economy has been growing at a rapid pace. Some economists and researchers argue that the economy of Saudi Arabia has not been growing at the same pace as the growth in oil revenue. This study tried to explore the effect that greater oil revenue has been having on one sector of the economy which is infrastructure. The study explored the relationship between oil revenue and government expenditures on infrastructure during the period of 1983-2007. The study tried to find out if the increase in oil revenue was associated with a similar increase in government expenditures on infrastructure during the period of 1983 to 2007. The findings of this study suggested that the increase in oil revenue was not associated with a similar increase in government expenditures on infrastructure.

Key Words: Saudi Arabia, crude oil, economy, government expenditure.

Introduction

Saudi Arabia is the largest exporter of crude oil in the world. The government, which controls most of the oil industry, has been generating massive oil revenues as a result of the rapid increase in oil prices in the last few years. Many wonder if the government is effectively using oil revenue in such a way that would achieve economic development and prosperity.

This study focuses on one aspect of this relationship which is the relationship between oil revenue and one sector of the economy which is infrastructure. The study tests the relationship between oil revenue and infrastructure expenditures in Saudi Arabia during the period of 1983-2007 to see whether the increase in oil revenue was associated with a similar increase in infrastructure expenditures.

The importance of this study stems from the fact that no study had focused on the specific relationship between oil revenue and any of the government main budget expenditures in total or individually or on the effects of these expenditures on their related sectors of the Saudi economy.

So, the importance of the study stems from the lack of a documented quantitative study on this topic.

Literature Review

Infrastructure is a broad term used by economists to refer to a group of capital assets in a certain country or locality. There is no clear definition of what is included under infrastructure. Nevertheless, Pollin (2009) divided infrastructure into three areas: transportation, energy, and water management. He further divided those areas into sub areas which includes, roads and bridges, airports, railroads, public transportation systems, drinking water, dams, electric grids, and pipelines moving oil and natural gas.

Other researchers like Similarly, Torrance (2009) divided infrastructure into three categories: transport infrastructure, regulated infrastructure such as water, electricity and gas distribution, and social infrastructure such as schools and hospitals.

No matter what the definition of infrastructure is or its components are, the fact is that infrastructure investment stimulates the economy by improving performance and productivity which, in turn, helps bring about economic growth. Smit and Trigeorgis (2009) believed that infrastructure investment builds a platform and creates a base for the growth strategy and it is the starting point for any investment to follow.

The largely recognized positive impact infrastructure investments have on the economy as a direct cause for economic growth encourages different governments around the world to allocate sizable portions of their budgets to infrastructure to stimulate the economy, provide jobs, and of course improve their infrastructure.

Ever since oil was discovered in Saudi Arabia, the government has been spending enormous resources on building the country's infrastructure almost from scratch. The country has achieved significant improvements in building its highways, airports, power generating plants, refineries, desalination plants, shopping centers, schools, and hospitals. Most of this happened in the last half century as Clarke (2007) commented "Saudi Arabia has gone from a country of fractured tribes living in sand-swept villages, to a thriving, industrial nation dotted with skyscrapers, superhighways, airports and factories." (Clarke, 2007, p. 32)

The huge growth in infrastructure was a direct result of the growing petroleum industry. Kronemer (1997) indicated that during this growth that took place in less than 50 years, more than 80,000 miles of paved roads were built, 4000 hospitals and health centers, hundreds of schools and several universities.

Despite the considerable spending on infrastructure development in Saudi Arabia some researchers still see a severe need for more infrastructure investment. "Investments in infrastructure, mainly water supply networks, power plants, telecommunications capacity, housing and transport systems, is highly needed because of a growing population." (Quilliam and Kamel, 2003 p. 49)

Other researchers also stressed on the badly needed investment in the water supply sector. Mohorjy and Grigg (1995) noticed that despite the huge amounts Saudi Arabia has spent on water desalination, the country still faces severe water problems and doesn't have the necessary comprehensive water management system.

This conflict of researchers' opinions on the evaluation of the effect of expenditures on the different sectors of the economy and what kind of improvements result from these expenditures in relation to Saudi Arabia is one more reason behind this study.

Methodology

To determine if a relationship does exist between oil revenue and infrastructure expenditures; and if it does, what kind of relationship it is, the researcher ran simple linear regression analyses between oil revenue and government expenditures on infrastructure during the period of 1983-2007. Also to discover any trend, same analyses were done after splitting the period of the study into three equal intervals of times: 1983-1991, 1992-1999, and 2000-2007.

To conduct this study the researcher used secondary data that he has access to from several sources including existing databases and websites. Data needed for this study consists of two types of data. First, Saudi oil revenue amounts for the period of the study 1983-2007. Second, Saudi main budget expenditure amounts on infrastructure and for the period of the study.

Annual oil revenue data for Saudi Arabia for the period 1983-2007 were collected from OPEC Annual Statistical Bulletins for the year 1983 and the year 2007. Data about the Saudi budget expenditures for the period 1983-2007 were collected from the Europe World Yearbooks 1983-2007; the Saudi Ministry of Finance website; and the International Monetary Fund (IMF) website.

All data collected were then analyzed, sorted, and organized in tables using Microsoft Excel spreadsheets.

Data for this study would have a few limitations that should be indicated. First, data for this study were collected from several sources rather than one source and this may cause inconsistency in the way different numbers have been calculated. Another limitation is the timeline of the study from 1983-2007 may not represent the real relationship between the different variables. Furthermore, there is a chance of bias with those numbers collected from the Saudi government official websites as governments sometimes tend to tweak numbers to fit their own purposes.

Results

Findings of the study revealed that during the period of 1983-2007 the increase in oil revenue was not associated with any increase in infrastructure expenditures. Findings also showed that on average the Saudi government had spent almost \$1 billion on infrastructure development every year regardless of the increase in oil revenue during this period.

Moreover, the period of 1983 to 2007 was broken into three equal time intervals to look for any trend in the relationship. Findings showed that between 1983 and 1990, each increase of one dollar in oil revenue was associated with a decrease of two cents (-.0216) in infrastructure expenditures, a one dollar increase in oil revenue between 1991 and 1998 was associated with less than one cent decrease (-.0069) in infrastructure expenditures. Between 1999 and 2007 the increase of one dollar in oil revenue was associated with almost less than one cent (.0047) increase in infrastructure expenditures. At the same time the findings of the study also showed that amount of expenditures allocated to infrastructure regardless of the increase in oil revenue was dropping sharply over time. This amount decreased from an average of \$2,583.1 million per year in the period of (1983-1990) to an average of \$796.98 million per year in the period of (1991-1998) and to an average of \$287.49 million per year in the period of (1999-2007).

Discussion of Results and Findings

The results of the study showed that the increase in oil revenue between 1975 and 1983 was not associated with a similar increase in infrastructure expenditures. The results also showed that the relationship between oil revenue and infrastructure expenditures was not getting any stronger over time. Furthermore, the average amounts spent on infrastructure every year regardless of oil revenue has been going down.

Conclusion

It is very hard to pinpoint the exact reason or reasons why the Saudi government expenditures on infrastructure didn't increase with the increase in oil revenue. However, one important reason is that the Saudi government has already spent very large sums on building a new and advanced infrastructure in the last few decades since the oil was discovered and money started flowing into the country. This created less need for new large investments on infrastructure and more spending on maintenance and smaller projects. Other reasons may be traced to the general socio-economic and internal situation in the country and may include the following:

- a) Bureaucratic government administration which controls the public expenditures.
- b) Many expenditures occur off- budget such as military expenditures and others.
- c) Large sums of oil money went to pay off government debt and obligations incurred by the Saudi Government from the Gulf War of 1991.

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