

**The Paradox of Natural Resources:
The Impact on Economic Freedom**

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Abstract:

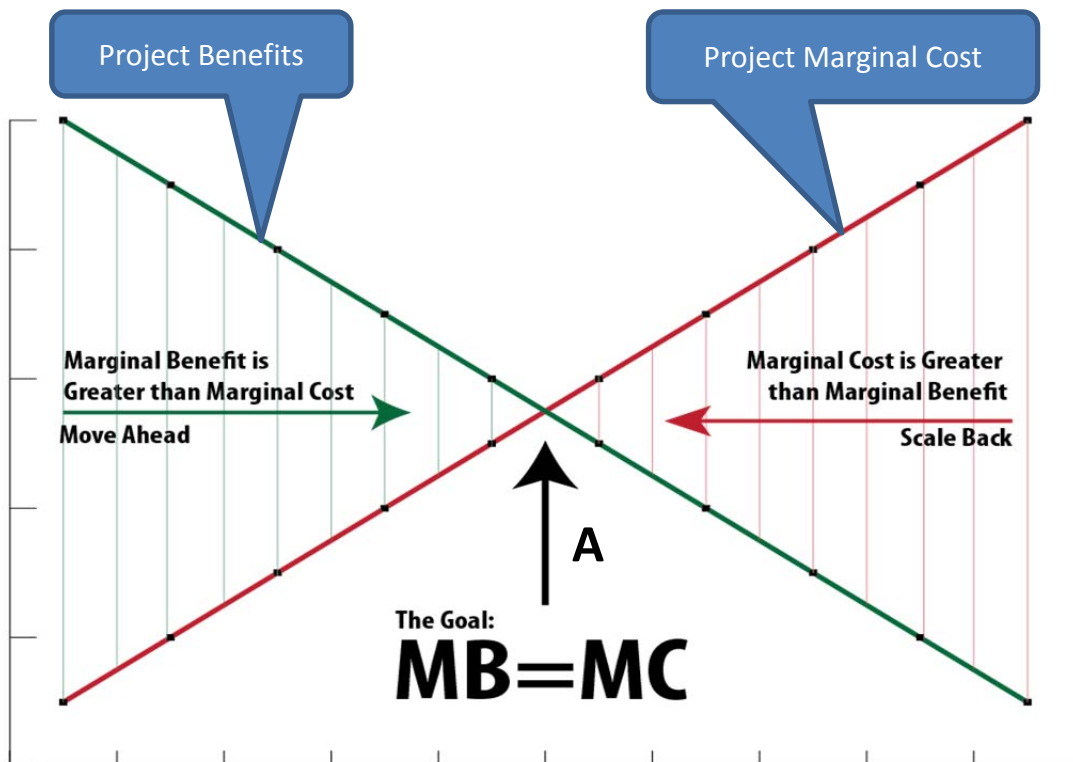
The objective of the paper is to examine the attitude of natural resource dependent governments towards the principles of “Economic Freedom” and on effective governing institutions. This paper seeks to demonstrate that undemocratic governments with abundant natural resources are less inclined towards rational economic behaviour; and, have less effective governing institutions which is fundamental for ensuring “property rights”. Consequently, these countries score poorly on the Economic Freedom index relatively to other countries. The data used in this paper is comprised of the Economic Freedom Index, and two other data sets: The World Bank Database on Good Governance and the International Budget Partnership on Open Budget Survey.

The Paradox of Natural Resources

1. Introduction: Economic Behaviour in context of Scarcity Versus Abundant Resources

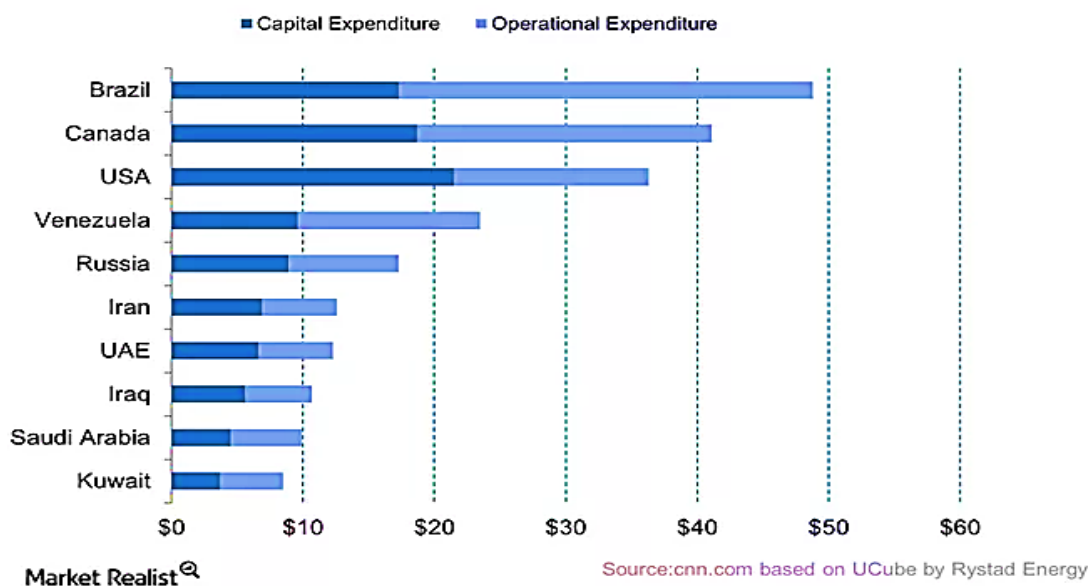
Economics is a broad term referring to the scientific study of human action, particularly as it relates to human choice and the utilization of scarce resources. Therefore, economics is a science of setting priorities or making rational choices. Scarcity of resources induces the decision maker to prioritise or make choices among alternatives aiming at maximizing net benefits (minimize opportunity cost). Economic choice is guided by the principle of marginal costs & benefits. In fig (1) the vertical axes represents price or market value and the horizontal axes represents the number of units consumed or produced. Marginal benefit curve (the green curve) is declining and marginal cost curve (the red curve) increasing, the interaction point of the curves represents a point where marginal cost = marginal benefit (the equilibrium point).

Figure 1: marginal cost and benefit curves (case of scarcity resources)



The above analysis shows the economic rationale behind decision making when resources are scarce. However, what would be the behaviour of the decision maker if resource or revenue are abundant? To explain this let us assume the resource in question is oil or money obtained from selling oil (For example, a country with a large oil deposit such as Saudi Arabia or Iraq). In these two countries, producing oil is an easy (inexpensive) task as the cost of producing of one barrel is less than \$6 while the market value can reach \$100.

Figure 2: cost for producing crude oil per on barrel



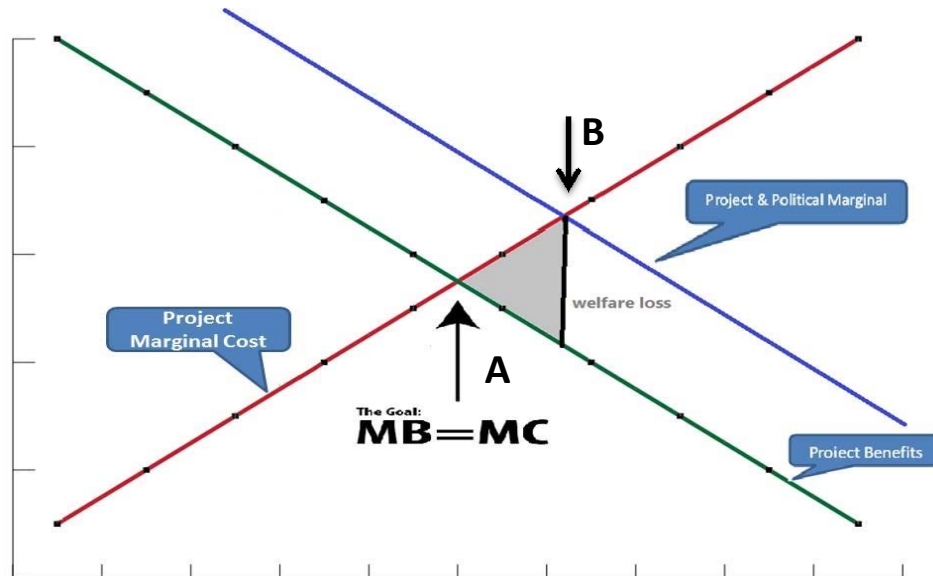
Source: UCube, 2015, <http://marketrealist.com/2015/12/long-can-price-war-continue-crude-oil/>

Oil rich governments that spend \$100 obtained from oil revenue is different to government spending behaviour that is obtained from other sources such as taxation because there are differences in value for money. In other words, the value of \$100 differs depending on the way it was obtained.

Given the above, if the decision maker is not guided by the principles of value for money, this will naturally lead to overspending. Governments of oil rich countries have the tendency to consider both their own political benefits (status and prestige) and the socioeconomic benefit of a project when making a decision about it; however, it is arguable that they are influenced more by their own political interests rather than value for money. They are not exclusively guided by the value for money; they are guided by their own individual interests. As an example, building a hospital can have both direct socioeconomic benefits and indirect political/individual benefits for the ruling government.

This would make the total marginal benefit higher than its technical/direct benefit curve. Graphically this can be represented by considering a new marginal benefit, which includes both direct socioeconomic marginal benefits + political marginal benefits. As it is illustrated in fig 3 with the blue curve.

Figure 3: marginal cost and benefit curves (with abundant Resources)



The above figure illustrates the shift in decision making from A to B. In other words if the horizontal axes represents the number of hospital beds then the new decision (B) will increase the number of beds beyond the rational equilibrium point leading to a loss in welfare. This behaviour is very clear in the case of natural resource dependent countries (especially those without democratic institutions as will be elaborated later).

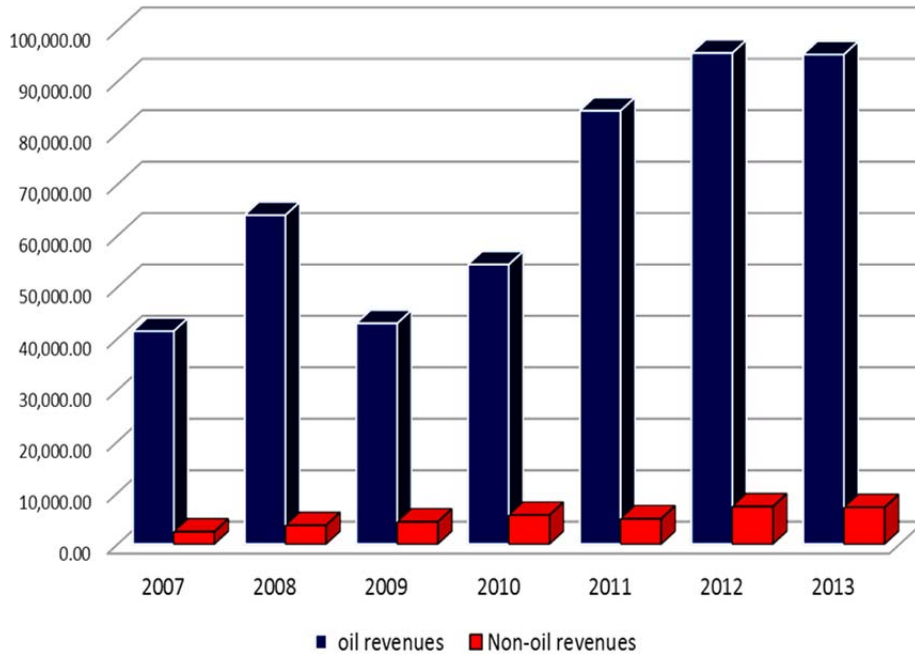
Given this introduction on spending behaviour, the remainder of this paper will investigate the impact of this (irrational) behaviour on the economic freedom scores (index) and on the effectiveness of governing institutions: The Iraqi economy will be used as a case study to illustrate this further. The final section will then be used to present concluding remarks.

2. Irrational Economic Behaviour and Accountability

In non-natural resource dependent countries, revenue usually comes as a result of fees and taxations and both of these have opportunity costs for citizens. These costs create incentives or obligations for government to set up justifiable priorities in spending these revenues. In natural resource dependent countries governments' revenues comes mainly from export of natural resources (such as oil). The value for money of this revenue as explained in the previous section is less than the equivalent revenue raised from the deduction of citizens' income. For example Iraqi Government revenue is approximately 94% from exporting oil, see figure (4).

Figure 4: Iraq's Government Revenue

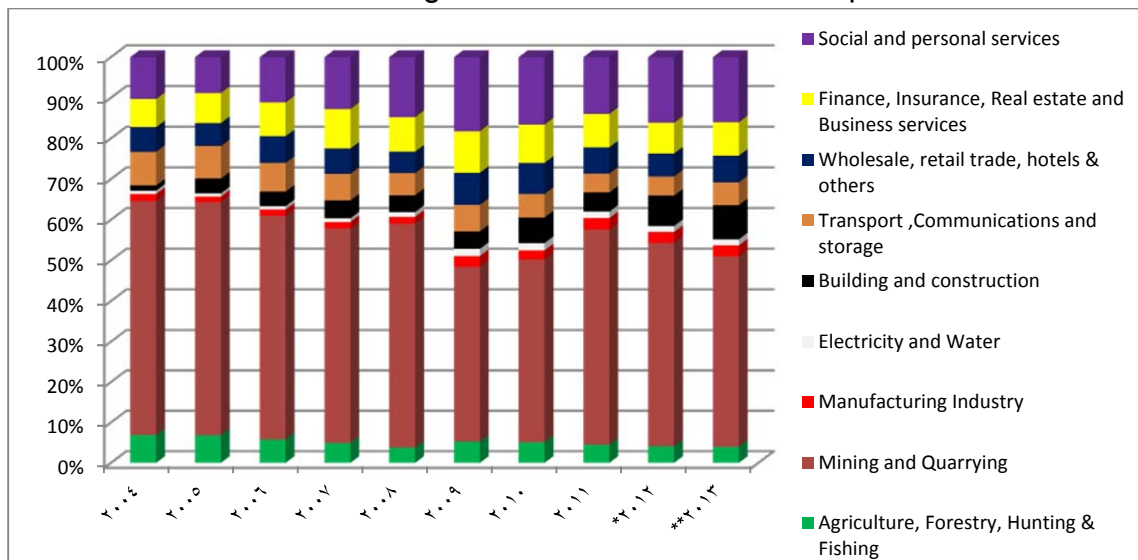
Revenues for years 2007-2013 (Million Dollar)



Source: Iraq Ministry of Finance, 2015, unpublished document

The impact of abundant oil revenue is in shaping policies which is usually less effective in promoting development across all sectors of the economy. Figure (5) confirms this fact with an illustration of GDP in Iraq for number of years; it is clear from the figure that government policy did not promote diverse income from other sectors such as agriculture and industry. Rather GDP in Iraq has been dominated by the oil sector which comprises mining and quarrying only (petrochemicals are included within the manufacturing industry sector).

Figure 5: % of Oil in GDP of Iraq



Source: Iraq Ministry of Planning, 2015, *unpublished document*

Abundant natural resources are a gift of nature and usually under government control, practical observations in non-democratic countries shows that governments are less accountable than if revenue were generated through taxation. The degree of accountability proportionally increases with the level of democratic institutions. Moreover, citizens in most oil producing countries are not aware of price, production cost of oil per barrel, government's priorities or actual spending.

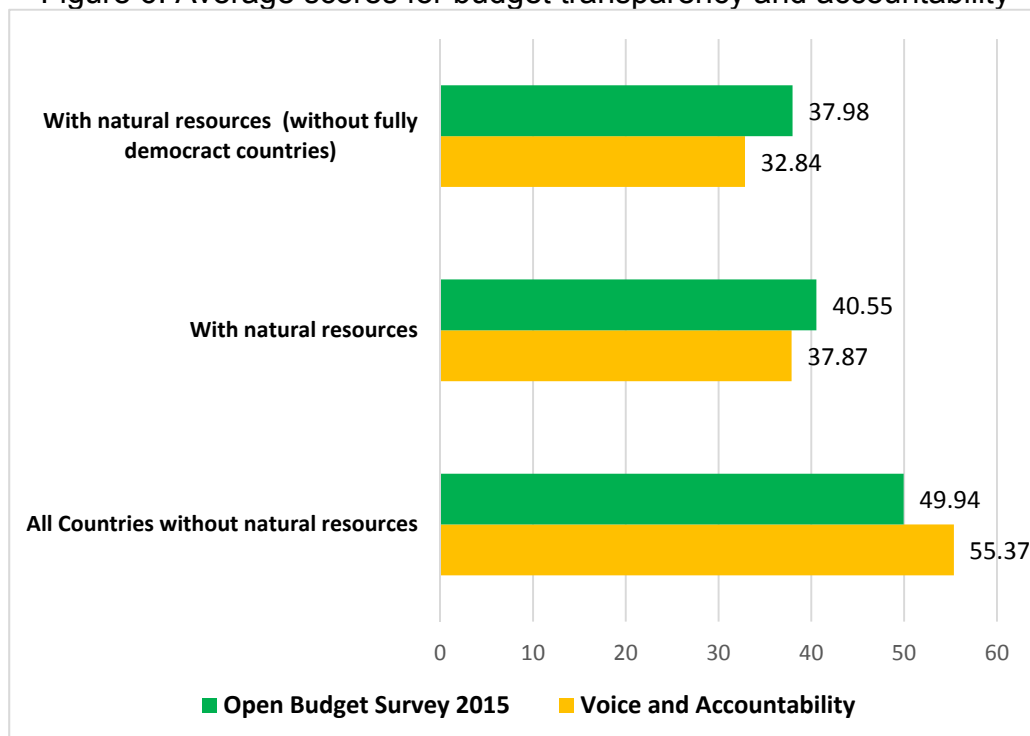
To illustrate the impact of the above, the following three data sets are merged: Economic freedom index (2015), World Bank data on Good Governance (2015), and International Budget Partnership on Open Budget Survey (2015). The following analysis is carried out with respect to the following three groups of countries:

- All countries (without natural resources),
- All countries with natural resources (irrespective of democratic status)
- All countries with natural resources (excluding democratic states)

Figure 6: shows average scores for budget transparency and accountability, it is clear that the average scores for transparency and accountability is higher in case of countries without natural resources than that with natural resources. To explore the impact of democratic institutions on transparency and accountability (Good Governance) a comparison of two set of data are used:

The first set is all countries with natural resources and the second set of all countries with natural resources (excluding fully democratic states). The result shows average scores for transparency & accountability are higher in the first set than those in the second set.

Figure 6: Average scores for budget transparency and accountability



Sources: International Budget Partnership, 2015, <http://www.internationalbudget.org/wp-content/uploads/OBS2015-Report-English.pdf>

World Bank, 2015, <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

The issue of budget transparency can be illustrated with reference to Iraq in figure (7). Despite the “Financial Management Law” of 2004 which clearly states that the Federal Budget should be fully transparent, the budget transparency score for Iraq was very poor!

Figure 7: budget transparency in Iraq

The Availability of Budget Documents Over Time

Document	2010	2012	2015
Pre-Budget Statement	●	●	●
Executive's Budget Proposal	●	●	●
Enacted Budget	●	●	●
Citizens Budget	●	●	●
In-Year Reports	●	●	●
Mid-Year Review	●	●	●
Year-End Report	●	●	●
Audit Report	●	●	●

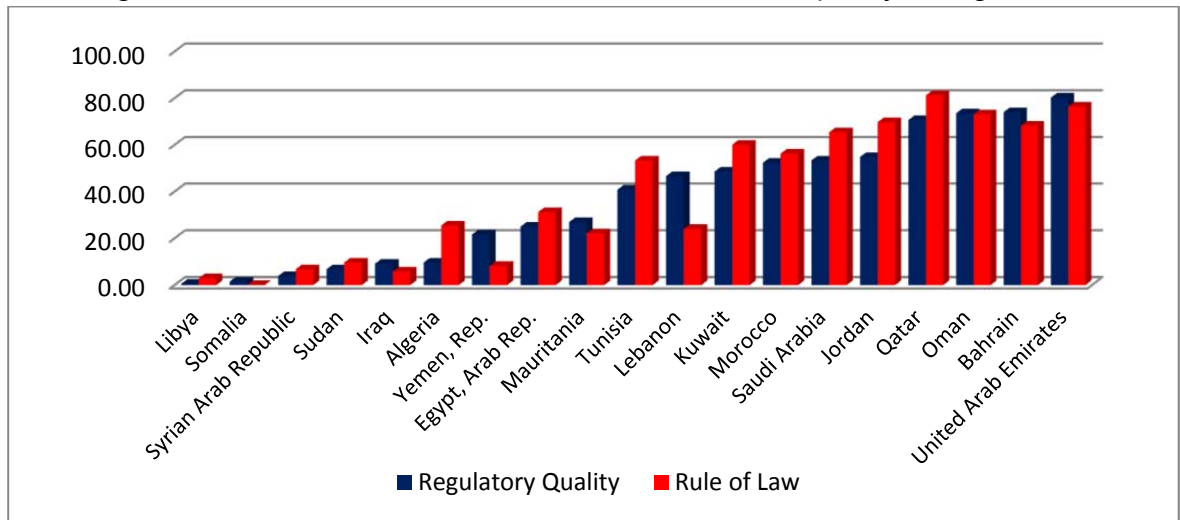
● Not produced/published late ● Produced for internal use ● Published

Source: International Budget Partnership, 2015, <http://www.internationalbudget.org/wp-content/uploads/OBS2015-Report-English.pdf>

Furthermore, transparency is a fundamental matter for controlling and fighting corruption and to facilitate accountability and rule of law. Absence of rule of law hinders governments from introducing high quality and friendly business regulations and ensure protection of property rights (which is a fundamental factor for Economic Freedom).

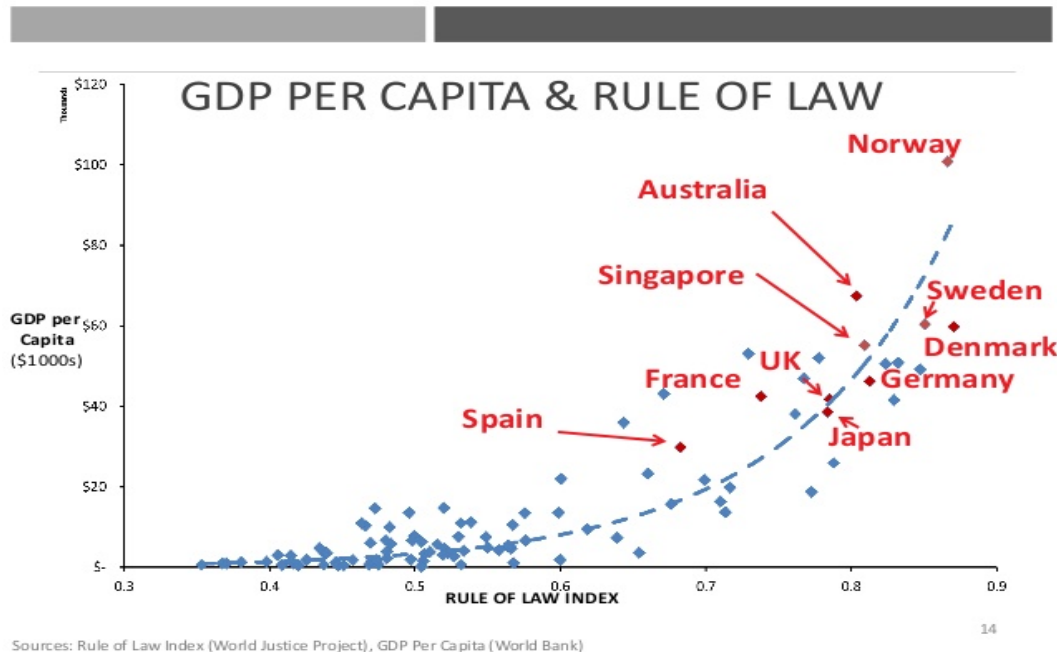
Friendly business regulatory systems encourage private sector development and attracts FDI which increases GDP per capita. There are strong statistical evidences that reforming regulations is highly correlated with level of rule of law. Figure (8) shows the association between Rule of Law and quality of regulations, and Figure (9) shows relation between Rule of Law and economic growth (GDP per capita).

Figure 8: the association between Rule of law and quality of regulations



Source: World Bank, 2015, <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>
 World Bank, 2015, <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB15-Full-Report.pdf>

Figure (9): the relationship between Rule of Law & GDP per Capita

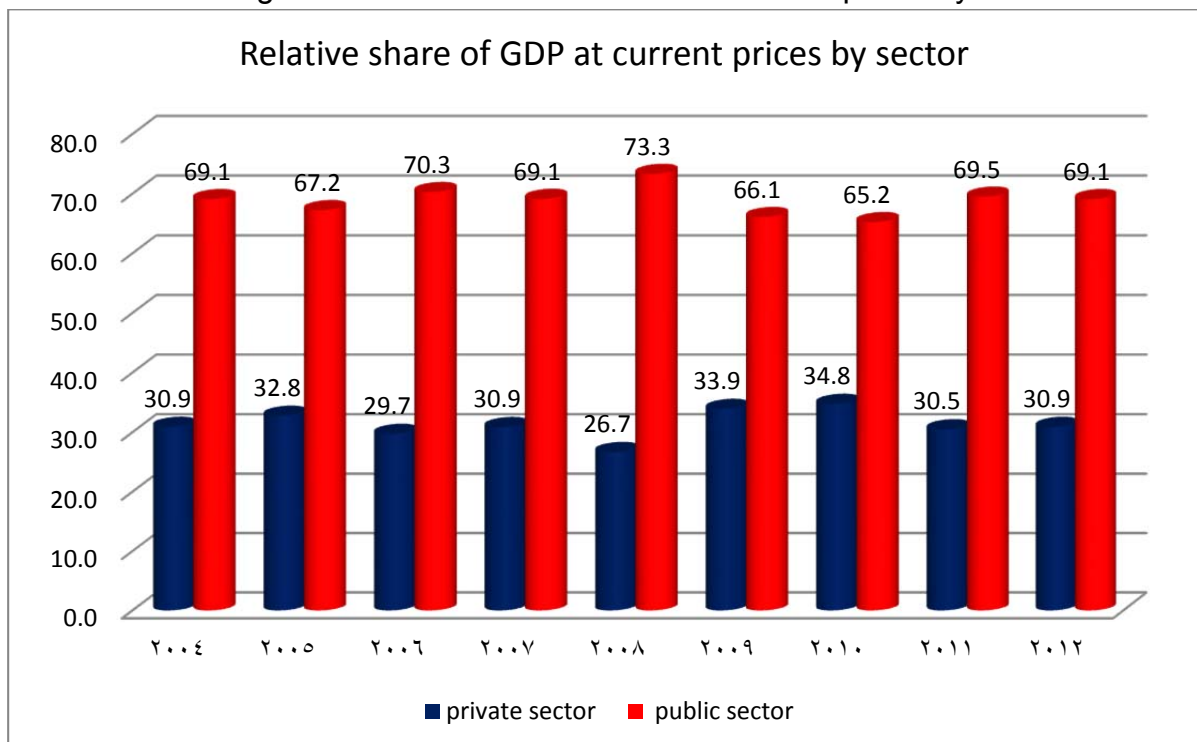


Source: Rule of Law Index (World Justice Project), GDP per Capita (World Bank)

https://www.google.com/search?q=gdp+and+rule+of+law&espv=2&biw=914&bih=448&source=lnms&tbn=isch&sa=X&ved=0ahUKewiGol6S_MbPAhUIB8AKHdxBBYkQ_AUIBygC#imgrc=GqnXttJpim4fM%3A

Governments in natural resource dependent countries have a tendency to control use of oil revenue, and use it in a way that reflects their own political interests. As a consequence, there is large public sector spending, regulation and legal systems to promote public sector growth. No doubt that these restrict private sector activities. Figure (10) illustrates this phenomenon with respect to Iraq, the figure shows the poor contribution of the private sector to GDP.

Figure 10: relative share of GDP at current prices by sectors



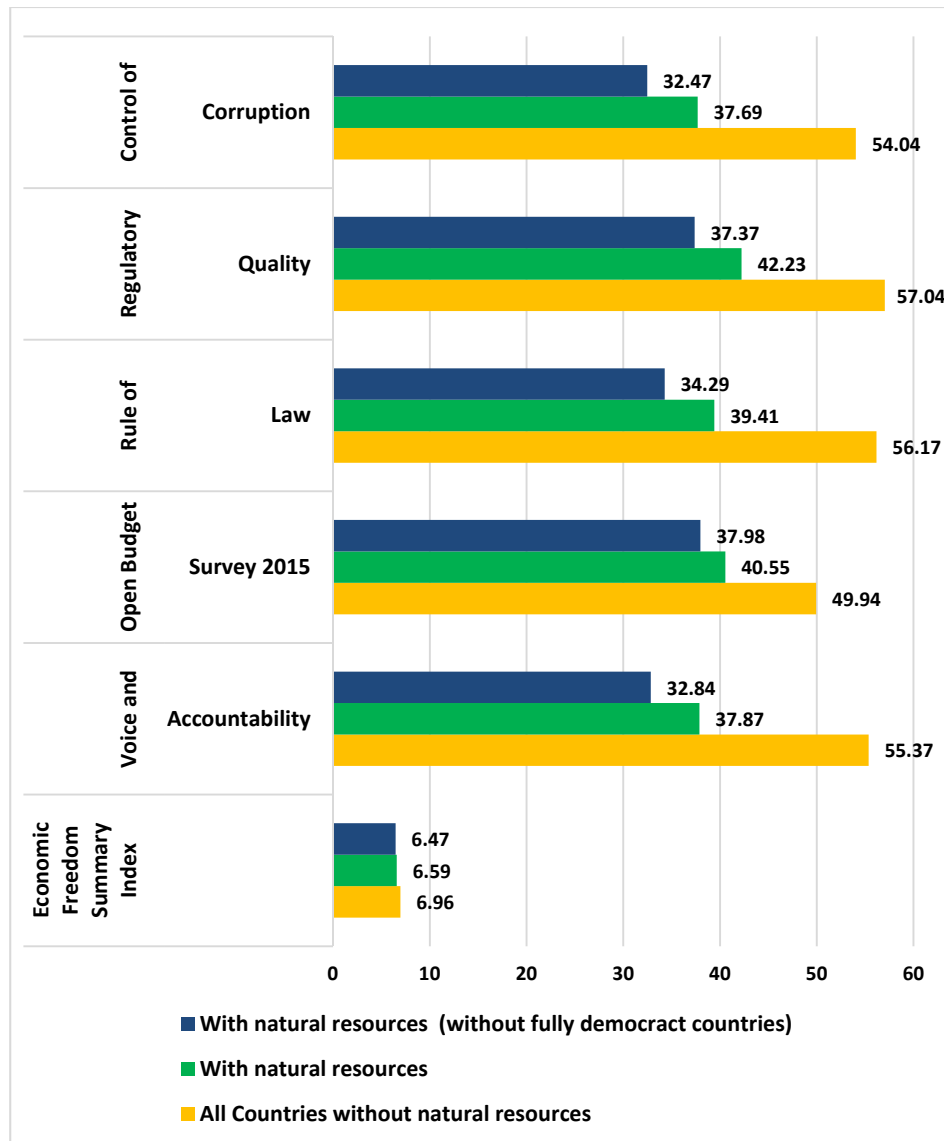
Source: Iraq Ministry of Planning, 2015, *unpublished document*

Strong democratic institutions have a tendency to curb government manipulation of oil revenue to their advantage. It is expected that strong political institutions tend to induce robust economic institutions.

Figure (11) shows that average indices for: controlling corruption, quality of regulation, rule of law, transparency of state budget, and accountability are less for natural resource dependent countries in comparison with countries that are not natural resources dependent. By including fully democratic natural resource countries such as Norway, UK, and Canada the results have higher average scores for accountability, transparency, rule of law etc.

Regarding the Economic freedom score which depend on four variables: Rule of Law, Government size, Regulatory efficiency, and Market openness. It is obvious that natural resource countries would have a lower score than other countries, but the value of the score is not highly sensitive. This indicates that there is a room to improve specification of the Economic Reform Index.

Figure 11: comparison three groups of countries with respect of average values Good Governance Indicators & Economic Freedom score



Sources: International Budget Partnership, 2015, <http://www.internationalbudget.org/wp-content/uploads/OBS2015-Report-English.pdf>

World Bank, 2015, <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

Fraser Institute, 2015, <http://www.freetheworld.com/2015/economic-freedom-of-the-world-2015-dataset.xlsx>

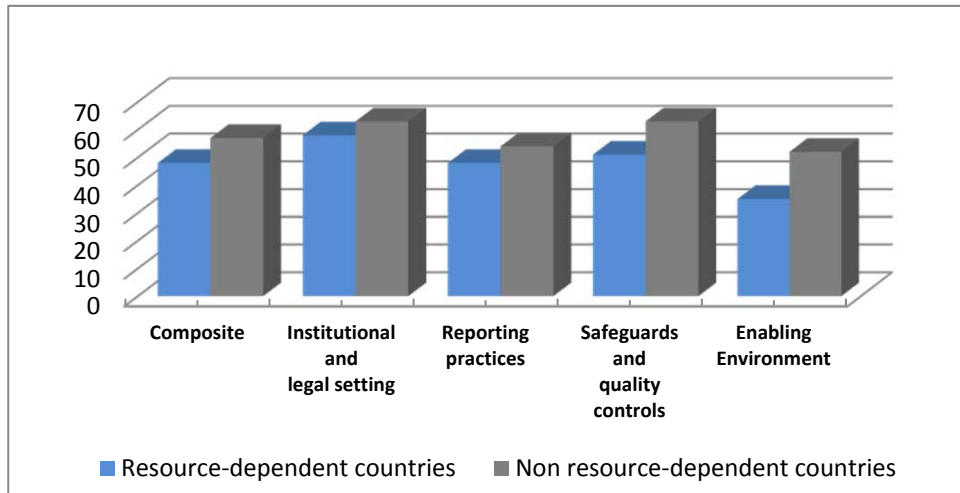
Further to ensure reliability of the above outcomes, the paper considered data of Natural Resource Governance Index 2013 which is produced by the Institute of Revenue Watch (2013), the index is calculated using four variables:

1. Institution and legal setting: The degree to which the laws, regulations and institutional arrangements facilitate transparency, accountability and open/fair competition.
2. Reporting Practice: The actual disclosure of information by government agencies. Because *de facto disclosures* are the best indicator of transparency, this component receives.
3. Safeguards & Quality Control: The presence and quality of checks and oversight mechanisms that encourage integrity and guard against conflicts of interest.

- 4. **Enabling Environment:** The broader governance environment, based on more than 30 external measures of accountability, government effectiveness, rule of law, corruption and democracy.

The institute of Revenue Watch which is now called Natural Resource Institute used this information to build scores for good governance. The data comprises 85 countries with information on the degree of democracy: fully, hybrid, authoritarian. The National Resource Institute concluded that highly dependent countries (more than 25% of GDP dependent on national resources) score less than the others countries, see figure (12)

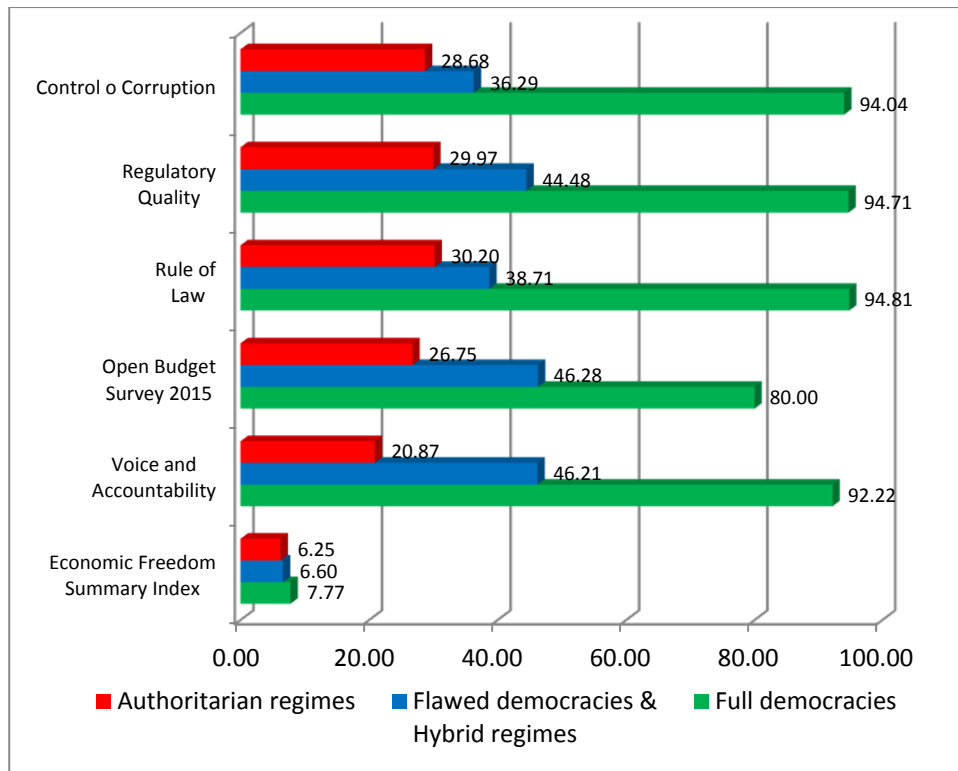
Figure 12: scores of governance for both dependent and not dependent on Natural Resources



Source: Revenue Watch Institute, 2013, http://www.resourcegovernance.org/sites/default/files/rgi_2013_Eng.pdf

To examine the impact of democratic status on economic institutions and on economic freedom scores, Figure (13): shows the Relationship of Political institutions on Economic Institutions & Economic Freedom (Using data from Governance Index of National Resource Institute).

Figure 13: The Relationship of Political institution on Economic Institution & Economic Freedom



Sources: International Budget Partnership, 2015, <http://www.internationalbudget.org/wp-content/uploads/OBS2015-Report-English.pdf>

World Bank, 2015, <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

Fraser Institute, 2015, <http://www.freetheworld.com/2015/economic-freedom-of-the-world-2015-dataset.xlsx>

Revenue Watch Institute, 2013, http://www.resourcegovernance.org/sites/default/files/rji_2013_Eng.pdf

Clearly there is a proportional relationship between democracy, governance indices and economic freedom. The above analysis is consistent with the economic literatures on the oil curse, linking oil revenues to weak institutions. That is to say that oil rich governments have few incentives to tax their citizens, and this leads to poor accountability and governance (see Luong and Weinthal 2006, and Collier, Paul. 2007).

3) Concluding Remarks:

This paper has analysed the data in two stages. The first stage looked at the data holistically, which comprised all countries without natural resources; whilst the second set focused only on those with natural resources. The analysis revealed that countries with an abundance of natural resources are less inclined towards having effective governing institutions than countries that lack natural resources overall. However, when we examine the countries with an abundance of natural resources more carefully we can see the impact of having a functioning democratic government in comparison to those without. What the data has presented is that natural resource abundant countries that lack democratic government are the least inclined towards effective governing institutions. However, when we add their democratic counterparts we notice an increase in effective governing institutions although they remain less effective overall than those countries without natural resources. In fact, natural resource abundant countries scored less in each of the five indicators of good governance (transparency; control of corruption; accountability; rule of law; and, quality of regulation). In such a climate "Property Right" cannot be assured, and therefore, it is no surprise that natural resource abundant countries score less on the economic freedom index.

The second stage looked specifically at the 86 natural resource abundant countries; however we added a further insight by including the category of the “hybrid regime & flawed democracy” in addition to the previous categories of “authoritarian” and “democratic”. What this added analysis discovered is that the authoritarian yet natural resource abundant country is the least inclined towards effective governing institutions; followed by the hybrid regime & flawed democracy category; and, finally the fully democratic countries had the most effective governing institutions. This added categorical breakdown and further analysis confirms with greater depth the findings of the first stage of analysis. Natural resource abundant countries score less on the economic freedom index than those which are not; however, the more democratic the natural resource abundant countries are, the higher they will score relatively on the economic freedom index.

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