Economic Growth, Abrupt Institutional Changes, and Institutional Policies: The Case of an Oil-Exporting Country

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Abstract

This essay deals with economic growth in Iraq when formal institutions are subject to abrupt institutional change. The essay follows a quantitative mode of enquiry to determine the impacts of institutional changes on economic performance. We built an expanded and updated version of Rowat’s (2007) model for the Iraq war of 2003. Thus, we estimate the effects of oil price, oil production, and abrupt institutional change in terms of war on Iraq’s gross domestic product (GDP) for 1971-2012. Likewise, we estimate the effects of the new institutional arrangements on the country’s economic performance for the sub-period 1998-2012. Our results demonstrate that the 2003 war and institutional arrangements have had a negative and significant effect on GDP growth, while the effects of both oil production and oil prices are positive but the latter is not statistically significant. In line with these findings, a static comparative analysis was also carried out for before and after the 2003 war in which a sort of brief account demonstrates in figures both the pros and cons. On one hand, the results show the destructive realities of the wars at the macro level and on the standard of living for common citizens and, on the other, the findings illustrate the difficulties and challenges related to creating institutional arrangements in the post-2003 war period that can enhance or promote sustained economic growth.

Keywords: Iraqi economy, Iraq war, institutional change, oil price, economic performance
Economic Growth, Abrupt Institutional Changes, and Institutional Policies: The Case of an Oil-Exporting Country

I: Introduction

Scholars in the 1950s held the widespread belief that the Iraqi economy had better prospects for achieving development than any other Middle Eastern economy. They argued that the country’s natural resources favored agriculture production (i.e., a relative plenty of cultivatable land and enough water for irrigation) and that the country was particularly blessed with increasing amounts of revenues from the oil industry (Iversen, 1954; Warriner, 1962), although within the foreseen shortcomings in planning and management of development under the Board of Development (see e.g., Habermann 1955; Salter 1955; Alnasrawi 1994 )

However, since 1958 economic growth in contemporary Iraq has been subject to dramatic disruptions like military coups and wars. These abrupt changes have brought about fundamental and rapid alterations in political and economic institutions. These institutions are characterized by political instability in terms of a series of military coups d’état followed by the establishment of nominally republican regimes in which the power in most cases was in the hands of military officers (see Farouk-Sluglett & Sluglett 2003; Tripp 2007). This has been reflected in repeated and sudden reorganizations of political and economic institutions to reinforce the different agendas and conflicting ideas of these governments; these continuous changes resulted in a lack of systematic and stable direction for economic development in 1958-1970 in particular (Alnasrawi 1994: 41, 130; Yousif 2012a: 48).

In contrast, the 1970s witnessed a high rate of economic growth with the help of a steady increase in oil revenues, while political suppression increased (Yousif & Davis 2011:228; Davis 2010: 345-346). However, the trend of a high growth rate reversed dramatically after

Two wars followed by more than a decade of sanctions caused neither an internal collapse nor a wide range of economic (Sassoon 2011: 129) or political reforms. On the contrary, the Iraq war of 2003 was an exogenous shock, pushing for institutional change. Thus it offers a case study of the impact of institutional change on the country’s political institutions, with economic consequences in addition to the obvious human losses and social consequences.

By definition, institutional change is understood as appropriate change in governance structure that successfully promotes economic growth (Libecap 1989: 4, footnote), while unsuccessful change in governance structure essentially creates the opposite result, such as stagnation or it might lead to economic decline.

Thus, the following research question seems to be highly pertinent for the case of the Iraq war of 2003: How is the performance of the Iraqi economy affected when its formal institutions are subject to abrupt (discontinuous) changes?

Although this essay is related to the literature on Iraq’s political economy and the economic costs of the Iraq war of 2003, in particular, our intention is to capture the economic effects of the changes in formal institutions on the aggregate output (i.e., the growth in gross domestic product (GDP)). Thus, in seeking to answer the essay’s question, we are guided by the analytical approach of new institutional economics (NIE) in dealing with institutional change. Thus we essentially employ a considerably different approach by attempting to express in quantitative terms the impacts of institutional changes on economic performance.
This led us to the following hypothesis:

The institutional change brought about by the Iraq war of 2003 was unsuccessful in establishing institutional arrangements that promoted economic growth with an existing set of constraints and reasonably improved the living standards for common citizens.

Given the case study in hand, after more than a decade of institutional change, we are arguably in a better position to test the aforementioned hypothesis empirically.

Our contribution is twofold: First to our knowledge, no empirical study to date has looked at the relationship between abrupt institutional changes and growth over time for the case of Iraq. In this context, the essay seeks to fill the gap in the quantitative mode of enquiry for the wars. In particular, the Iraq war of 2003. By measuring and comparing the economic outcomes for pre- and post-institutional change. Second, given that cross-country growth regressions show almost a certain relationship between institutions and economic development, the time-series evidence based on country’s case study likewise is necessary (Chang, 2011: 483). Thus, there is much to be gained from the time-series analysis of abrupt institutional changes in the Iraqi economy.

The essay is structured as follows. Section II introduces the background for the case in hand. Section III discusses some of the most relevant literature on the Iraq war and presents theoretical considerations based on NIE. In Section IV, the methodology and model specifications are presented, while Section V applies econometric models in the Iraq setting by testing the relationship between the growth in GDP as a dependent variable and various independent variables, including the growth in the aggregate annual governance index based on the Worldwide Governance Indicator (WGI) of World Bank. Section VI discusses the results and also provides a static comparative analysis between pre-war and post-war circumstances. Section VII concludes and provides possible extensions.
II. Institutional Change, Oil, and the Performance of Iraq’s Economy: A Brief Background

The Iraqi economy witnessed relatively steady growth after the 1950s when the export of oil became a vital component in Iraq’s GDP (Alnasrawi 1996: 3). However, in the 1970s, the trend in growth increased rapidly. According to calculations performed by Yousif (2012a: 46) the real GDP per capita (in 1990 prices) increased 106% between 1970 and 1979, while it declined during the 1980s; in which the decline was about 31% in 1989 in comparison with the 1979 level. The United Nations Conference on Trade and Development (UNCTAD 2015) also estimated a high annual average growth rate in GDP (in 2005 prices); it was 11.73% and the income per capita increased by 8.21% in 1970-1980, which was the highest growth rate in Western Asia.

This high rate of growth was driven mainly by oil price increases in 1973/1974, and the result was that oil revenues in nominal terms rose to reach US $26.3 billion in 1980 versus US $20 million in 1950 (Alnasrawi 1996: 3). Also, oil production increased to reach a historical peak of 3.47 million barrels per day in 1979 compared with 139,000 barrels per day in 1950 (OPEC 2013:54). This was reflected in the absolute dominance of the oil sector, in which the oil rent ratio to GDP reached about 65% in 1980 (World Bank, 2015a). Therefore, Iraq became over time, a classic example of a rentier state (Sassoon 2011: 129).

However, the high rate of economic growth did not last long and the path of economic development has been hampered since September 1980. There are two correlated factors. First, the oil price increase in 1979-1980 was eroded in 1981-1985 and it collapsed in the first half of 1986, falling by more than 50% (Gately, Adelman, & Griffin 1986: 238). Second, the more important factor is the engagement of Iraq in war with Iran (First Gulf War). As a consequence of the war, the actual Iraq oil production decreased to less than 2 million barrels.
per day in 1981-1986 (OPEC 2013). The country entered another devastating armed conflict after the invasion of Kuwait in 1990 (Second Gulf War), which was followed by more than a decade of severe UN sanctions and finally the outbreak of the Iraq War in 2003.

Figure 1-A plots the rate of growth/drop in GDP and oil production for 1971-2012, while figure 1-B plots the rate of growth/drop in GDP and oil price for the same period. Figure 1-A shows that the GDP and oil production moved closely together in the same direction for the period under study. The fluctuation includes a sharp drop in 1981, 1991, and 2003, respectively, because of wars. Figure 1-B shows the spike in oil prices, especially in the mid of 1970s and sharp drop in 1981-1986. In addition, it also suggests that the GDP responded to oil price changes with a slight lag.

**Figure 1-A: The rate of fluctuation in GDP and oil production for 1971-2012**

Sources: UNCTAD (2015); OPEC (2013), author calculation

**Figure 1-B: The rate of fluctuation in GDP and oil prices for 1971-2012**

Sources: UNCTAD (2015); World Bank (2014a), author calculation

**Figure 2: The rate of fluctuation in GDP and aggregate annual governance index for 1998-2012.**

Sources: UNCTAD (2015); World Bank (2015b), author calculation
Furthermore, we plot figure 2 which display the rate of growth/drop in both the GDP and aggregate annual governance index for 1998-2012 of WGI. Figure 2 shows the drastic drop of GDP in 2003 followed by a high growth rate in GDP accompanied by a sharp drop in the governance index in 2004. In sum, visual inspection suggests that the change in oil production, oil prices and governance index may help to explain Iraqi GDP growth.

Actually, the wars are linked together in a sort of continuous chain of events; the negative economic consequences of the First Gulf War coupled with the decline in oil prices in the 1980s created the causes for the Second Gulf War (Al-bazzaz 1992; Yousif 2012:35), while the Iraq war of 2003 is considered by some to be the final phase of the unfinished Second Gulf War.

Table 1 demonstrates the actual disruption in Iraqi GDP, GDP per capita, and oil production when these armed conflicts broke out.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event*</th>
<th>Drop/Increase in Real GDP (2005)</th>
<th>Drop/Increase in Oil Production</th>
<th>Drop/Increase in Real Crude Oil Price (2005)**</th>
<th>GPD per Capita in USD (2005)***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>First Gulf War (Outbreak of Iran-Iraq War September 1980)</td>
<td>-18%</td>
<td>-66%****</td>
<td>-4%</td>
<td>1581</td>
</tr>
<tr>
<td>1991</td>
<td>Second Gulf War (Invasion of Kuwait August 1990)</td>
<td>-66%</td>
<td>-87%</td>
<td>-15%</td>
<td>460</td>
</tr>
<tr>
<td>1998</td>
<td>Oil for Food Program (OFFP)</td>
<td>58%</td>
<td>35%</td>
<td>-28%</td>
<td>1324 *****</td>
</tr>
<tr>
<td>2003</td>
<td>Iraq War (March 2003)</td>
<td>-35%******</td>
<td>-33%</td>
<td>8%</td>
<td>868</td>
</tr>
</tbody>
</table>

*) According to Barsky and Kilian (2004, p. 116, Table 1), the 1st, 2nd, and 4th events are associated with subsequent major oil price increases in the international market. According to Gately (1994: 4), the price doubling in 1979/1980 took six years to un-do, while the price doubling in 1990 took just three months to return to the previous level.

**) The percentage change in crude oil price in which the average spot price of Brent, Dubai, and West Texas intermediate is equally weighted (World Bank 2014a).

***) In 1979, the Iraqi GDP per capita (at 2005 prices) reached its peak of US $2,034 (UNCTAD, 2015).

****) Oil production declined from 3.4 million barrels per day (mbd) in August to 140 thousand mbd in October 1980, and the negative impact of the war hit oil revenues, which declined from US $25.1 billion in 1980 to US $10.4 billion one year later (Alnasrawi 1994: 80).

***** While GDP per capita rose in 1998, the increase might overstate the level of economic recovery in the late 1990s due to unequal income distribution from one side and the restrictions imposed by OFFP on the imports from the other (see Yousif & Davis, 2011, pp. 231-232).

******) According to Merza (2008: 6, 32), the overall decline in GDP (at 1988 prices) was 33%; the share of oil was 37% while the share of non-oil activities was 28%. Merza also provided the decline on the sectoral level; the most affected was construction and electricity with a 76% decline, while water had a 60% decline. Transport and trade followed with 43% and 46%, respectively. Agriculture and manufacturing were hit equally hard at 29%. In contrast, social services maintained its level.

Source:
It is easy to note in Table 1 that these institutional changes (i.e., the wars and the UN Oil for Food Program) played an undeniable role in affecting the performance of Iraq’s economy (i.e., GDP and GDP per capita have experienced wide swings). Essentially, these impacts varied depending on the initial conditions prevalent at the outset of the institutional change. Thus, the negative effects of the wars on GDP and GDP per capita may differ greatly from one episode to the next, in accordance with variations in oil production level, oil market conditions, and the associated political events. However, the table shows that the largest impact came from the Second Gulf War, which Iraq fought after invading Kuwait in a wide-scale military conflict with coalition forces under the leadership of the United States.

The first phase of economic decline was the First Gulf War; according to Alnasrawi (1994, p.100), the annual cost is estimated to be 104% of Iraq’s GDP during 1980-1989. Furthermore, a rough calculation done by Nordhaus (2002: 4) based on the decrease in levels of oil production estimated that the UN sanctions in 1991-2002 reduced Iraq’s oil revenues by approximately six years’ GDP. Thus, as a consequence of the Second Gulf War and the UN sanctions, the GDP per capita (at constant 2005 prices) had fallen to US $1,397 in 1989 and collapsed drastically to US $460 in 1990, compared with its increase from US $998 in 1970 to US $2,034 in 1979 (UNCTAD 2015). Apparently, the two wars followed by UN sanctions cost the Iraqi economy two decades of GDP loss in financial resources, output, and infrastructure (Nordhaus 2002: 4). Thus, Nordhaus concluded that “[there are] no parallels in modern history to economic devastation on that scale” (p. 4).

On March 19, 2003, the US and other coalition forces launched a full-scale military intervention called “Operation Iraqi Freedom” in which Iraqi forces fell apart due to the coalition forces’ domination of the air and their massive firepower (Tripp 2007: 274). By April 9, American forces had taken Baghdad and Saddam Hussein’s regime had collapsed.
Thus, the 2003 war marked the beginning of a new chapter in Iraq’s history; this war fundamentally differed from previous wars because this external intervention opened the window of opportunity to create new political and economic institutions (al-Oraibi, 2013: 77). In this context, the political change constitutes a sharp turning point from a dictatorship to a potential democracy. It is the source of inventing new institutional arrangements for Iraq after more than two decades of wars and sanctions. This took place in the form of wholesale change; new formal rules came into force and a new constitution was drafted and approved in 2005 (Allawi, 2007)\(^1\)

**III. Literature review.**

In this section, we review the theoretical framework of NIE, which draws on work by North, Wallis, & Weingast, (2009), Easterly (2008), and Barzel (2002), among others, and we link that research to some of the most relevant literature on the Iraq war. A relevant starting point might be the clarification of terms. *Institutions* can be defined as “legal, administrative and customary arrangements for repeated human interactions” (Pejovich 1990: 4). In other words, they can be defined as “the rules of the game in a society” (North 1990: 3), in which the rules are laws, regulations, and norms (Eggertsson 2013: 1). According to North (1990), institutional arrangements comprise both informal and formal constraints that include traditions, taboos, and customs at one end and laws and constitutions governing economics and politics at the other. In this vein, the incentives of individuals and organizations and their opportunities for wealth-enhancement are defined by the structure of both formal and informal rules and their enforcement mechanism (Aron 2000: 104). Even though the neo-classical vision has provided valuable insights for the process of economic growth, it is unable to explain growth adequately because it disregards the role of institutions and the subsequent changes in institutional arrangements (see Acemoglu, Johnson, & Robinson 2005; Chakravarti, 2007)\(^2\)
According to NIE, the rate of economic growth is determined by different assets, such as economic resources, natural and human resources, the stock of institutions and knowledge, and physical capital, while other factors shape economic performance; these factors range from the adopted policies to extraordinary circumstances and internal or external political events (Eggertsson 1996: 13). Thus, the path to a prosperous society lies in the availability of neither capital nor natural resources, but in creating institutional arrangements that support growth (Nye 2008: 69). Along the same line, North (1990) pointed out, "Third World countries are poor because the institutional constraints define a set of payoffs to political/economic activity that do not [sic] encourage productive activity " (p. 110).

In this context, NIE places institutional change as central in the development process, where development is defined as the sum of economic growth and appropriate institutional change, in which the latter smooths the way for further economic growth (Toye 1995: 61).

One of the main features of social institutions is that they are relatively stable and durable so they assist in creating order (Kingston & Caballero 2009: 172). However, institutions are also subject to change over time as certain social, political, and economic circumstances emerge. This leads to institutional change. In Eggertsson’s view (1996), the effects of institutional change on the economy can be summarized as follows:

“The sequence of institutional change may move the economy either away from an efficient (wealth-enhancing) institutional structure or in [the] direction of such structure” (p. 12).

Typically, institutional change occurs gradually, with institutional arrangements (i.e., rules, norms, and enforcement) undergoing marginal adjustments over time (North 1990: 83). On the other hand, institutions can also change in a discontinuous or abrupt manner. However, abrupt change is an exception; it is the result of revolution or conquest in which formal rules change radically overnight (North 1990: 6, 89).
In the same vein, Easterly (2008: 84) distinguished between two views of institutional change, the bottom-up and the top-down view. The top-down view is described as revolutionary and radical, where the state demolishes all the laws and starts with a blank slate by issuing new laws (e.g. the French Revolution). In contrast, institutional change in the bottom-up view is evolutionary and gradual, where informal rules of the society are formalized into formal rules.

In the same context, Pejovich (1990: 6) argued that changes are in response to forces which are either exogenous or endogenous. According to Pejovich, the former are imposed upon society, with changes in the rules of the game coming from without by a white knight, while the latter are outcomes of negotiations among individuals in response to the availability of new economic and social circumstances. It is worth noting here that externally imposed change is relatively much faster than inside-driven change, which is gradual (Toye 1995: 63). In this respect, North (1990: 89) classified the sources of discontinuous institutional change into natural disasters like hurricanes, earthquakes, and floods and man-made changes such as revolutions, conquests, and wars.

Barzel (2002: 250-251) considered these events to be shocks, defined as “anything that causes a change in the balance of power and the uncertainty associated with it.” In this vein, Barzel suggested that shocks such as natural disasters are the source of great damage. Likewise, shocks can result from errors, accidents, or even the spread of a new religion. According to Barzel, most severe shocks are man-made. Wars (i.e., civil and external wars) are the primary cause of shocks but can also be the effects of shocks. Though civil war is considered an endogenous event, its outcome is similar to that of an external war; the outcome is unpredictable. Such shocks are not predictable and thus constitute random shocks. Eggertsson (2008: 48) noted that the external shock has the most destructive consequences for developing countries because their ability to deal with the consequences of shocks is heavily constrained by the primitive technology in use. It is worth noting here that in these countries the negative consequences
might be more severe, especially when the formal institutions are weak. In this context, North, Wallis, & Weingast (2009) highlighted the following:

“Over the last two centuries, sustained economic growth results from the reduction of negative shocks to social output rather than a marked increase in the rate of growth in years when output is growing” (p. 252).

In connection with Iraq, North, Wallis, & Weingast (2009: 42) classified the Iraqi state at present (among a number of states in Africa and Asia) as a fragile natural state which can hardly tolerate the external and internal violence. In this context, the authors highlighted that the fragile state is ruled by a dominant coalition. However, the coalition is unstable, shifts rapidly, and can melt down when encountering any kind of shock. Thus, shocks can lead to reorganization within the coalition or alternatively to violence and the foundation of new coalitions. Furthermore, the membership in coalitions depends on the members’ personality and individual identity, while the patron–client networks play a vital role.

In his attempt to build up a theory of discontinuous change, Chakravarti (2007: 17) argued that the contemporary history of political and economic institutions in developing countries is brought out mostly by the intervention of human agency in terms of discontinuous change, namely, a small group within the country or a direct intervention by an external force. On the other hand, Tang (2012: 22) affirmed that, in human history, war among nations is a cause to spread efficient institutional arrangements; the winner pushes to reduce or eliminate welfare-reducing institutions and impose welfare-improving institutions on the society. Tang also believed that there is a learning process in which the parties engaged in conflict can learn from each other’s institutions and in the end this process results in the evolution of better institutions. However, this presumes a happy ending which is not necessarily the final outcome, as the possibility of other scenarios may lead to failure. Acemoglu (2003) referred to some cases in which an external force (e.g. colonial power) has imposed inefficient institutions and policies. In addition, the involved parties do not acting in isolation as they are subject to internal and
external constraints including the availability of the financial resources and the degree of long-term commitments for external force in pursuing political and economic objectives (see e.g., Dodge 2003).

One should note here that, the NIE approach makes intuitive sense and it is supported by an expanding research, while existing discussions are not yet grounded in a coherent theory of abrupt institutional change that can generate clear predictions.

Eggertsson (2009: 149), referred to institutional policy as “attempts made by rule makers (the authority) to adjust social systems by modifying various rules and methods of enforcements.” Thus, the objective is to transform and manipulate the economic relationships toward a specific direction (Boudreaux & Aligica, 2007: 28). This constitutes the core of any implemented institutional policy. However, for the case of transitions led by the state, Opper (2008: 400-401) suggested that two elements are necessary for a successful transition: political and bureaucratic capabilities exist to implement and enforce the reform on a national scale and the reform agenda is appropriate. Thus, the crucial element in implementing market reform policy in particular is the need to select a suitable method to transition into a friendly institutional environment (Nye 2008: 75).

Although the institutional change took place via military intervention for the case in hand, mounting American expenditures, in terms of both money and lives, have been subject to open public debate (The Economist 2006: 48-49). Thus, numerous economists have joined the public policy debate in connection with the calculation and documentation of these costs (see, e.g., Wallsten 2008; Stiglitz 2008). In fact, attempts to project the cost of the war can be traced back to before the outbreak of the war (see Nordhaus, 2002; McKibbin & Stoeckel 2003; Davis, Murphy, & Topel 2003, 2006).

The body of literature expanded considerably after the outbreak of the war; many related studies have focused on estimating the cost for the United States (Stiglitz & Bilmes 2006,
2008; Wallsten & Kosec 2005; Congressional Research Service 2008), while Hartley (2003) built a theoretical framework for cost-benefit analysis for the UK. Later, he expanded his analysis to include an initial estimation for the USA, the UK, other Allies and Iraq (see Hartley 2004).

Most of these studies (but not all) applied the cost accounting method by adding up the monetary value of direct and indirect costs; in this method, calculations are carried out for multiple scenarios in which there is a need for careful investigation of all types of costs to avoid double counting some costs and leaving out others (Gardeazabal 2010: 3).

In contrast, much less focus has been placed on the costs facing the other side of the conflict: Iraq, despite of the evidence, clearly shows that the costs to the Iraqi economy and society were huge with respect to the loss of life and destruction of property (Stiglitz & Bilmes, 2010:35). The projection of the full cost is difficult due to the ongoing conflicts and violence. Thus, very few quantitative analyses surround the subject, a major reason for which might be the unavailability of data on the Iraqi economy.

Nevertheless, in their calculations for the economic costs and benefits of the war, Wallsten and Kosec (2005) applied cost-benefit analysis to Iraq with the calculation on three levels: United States, coalition countries, and Iraq.

Bernasek (2006) reported a single attempt which concentrated on investigating the cost of the war for Iraq: Rowat’s 2007 study. According to Rowat (2007), Iraq’s GDP in 2005 might have reached $61 billion rather than the estimated $37 billion, if we assume Iraq had not engaged in the 2003 war. However, the cost for the economy is actually more than the difference of $24 billion; it is closer to $30 billion after subtracting foreign aid (Hong, 2010:3). In other words, the estimation indicates the war was associated with not less than a 50% loss in GDP, while Rowat (2007: 241) emphasized that the obtained results should be considered speculative given the short time span. Furthermore, Rowat’s econometric model includes a counterfactual
estimation, which assumes the status quo (i.e., no outbreak of war). Actually, such estimation faces a serious challenge; it is almost impossible to know what would have happened to Iraq and the Middle East region if Saddam Hussein had stayed in office (Stiglitz & Bilmes 2010: 35)\textsuperscript{14}

On the other hand, the assessment and evaluation of the implemented institutional policies in post-war Iraq and their impacts on Iraq’s political economy and its performance have been the subject of extensive analysis by Dodge (2003, 2013a, 2013b, 2013c), Davis (2007), Owen (2007), Mahdi (2007), Abboud (2009) and Yousif and Davis (2011). Although these scholars studied the Iraq case from different perspectives, they shared a similar point of view; while the economic shocks of wars and sanctions reflected negatively on the economic performance, after the regime change, there is a strong association between the poor performance of the Iraqi economy and the implemented institutional policies. In this regard, Looney (2004), Yousif (2006: 495) and Davis (2007) highlight the negative impact of the economic policies that were based on the quick linearization of markets and prices, called shock therapy. In this regard, Stiglitz (2004) went even further by criticizing this policy as a bigger shock for a developing country like Iraq, which was severely damaged by the Gulf wars and sanctions. In the meantime, he advocated management of the transition based on a gradual approach of privatization combined with the rebuilding of institutional arrangements.

In this context, Yousif (2006, 2007, 2010, and 2013) was among the first to analyze from an economic perspective the different aspects of the implemented institutional policies, reconstruction process, and institutional arrangements and how these affected the economic development in the post-war era. Yousif mad the essential point that the institutional policies for post-war Iraq resulted in increasing fragmentation of Iraqi society and failed to establish coherent new institutional arrangements.
As we pointed out earlier, in this essay we are concerned primarily with a somewhat different question that puts at the center the war as abrupt institutional change and its transformative impact on Iraqi economic, societal and state institutions.

IV: Methodology and Model Specifications

In this section, first we review the methodology and second we describe the econometric model by specifying the variables chosen to investigate the relationship between the growth in real GDP and institutional change.

Although the main purpose is to gain a proper understanding of the present performance of the Iraqi economy as an oil-exporting country, we recognize a substantial degree of path dependence (i.e., continuity between the past and present) in the country’s growth experience. Therefore, two regression models are developed for 1971-2012 and 1998-2012, respectively. The econometric technique of time series data attempts to deal with the cumulative impact of repeated conflicts (i.e. multiple institutional changes of the First Gulf War, Second Gulf War and Iraq war of 2003). The aim is to demonstrate these relationships quantitatively by using econometric techniques.

A. Methodology

For the task in hand, the essay follows in principle the theoretical plan outlined by Alston (1996: 26-27) in analyzing the institutional change. At the first level of analysis, there is a need to distinguish between the causes and consequences of institutional change; at the second level, the concern is the consequences or effects of institutional change. In this context, Alston suggested carrying out a static comparison between the two situations that is, comparing the situation between ante and post institutions or sets of rules in which institutional change is treated as exogenous. Therefore, section V includes a static comparison between the two situations in Iraq, after the war and under Saddam Hussein’s
rule, where the focus is on the number of institutional and economic indicators. This might serve in part to create a sort of balance sheet as suggested by Owen (2007: 99); these sheets include the failure and success of the post-2003 war period within the broad economic situation.

As according to many observers the war constitutes an unavoidable event, the discussion implicitly follows the call of Eggertsson’s (2008: 48) call to deal with the degree of governance effectiveness and institutional policies to question whether the inadequate or appropriate policies are the source of aggravation for the external shock or not. We admit the comparison is too difficult to achieve because it is almost impossible to know what the situation would look like if Saddam had stayed in power (al-Oraibi, 2013: 86). However, we believe it provides useful indicators of the performance of the Iraqi economy.

In connection with the causes of the Iraq war of 2003, it is worth noting here that weapons of mass destruction (WMD) programs never existed or were destroyed years ago and there were no established links to al-Qaeda (Stiglitz & Bilmes, 2006:1; Stiglitz & Bilmes, 2008: x). Furthermore, some scholars have affirmed that the alleged motivation for the war, which was based on the claims to control oil, seems simplistic and incomplete. In this regard, Marbo (2003) argued that the Iraq war of 2003 unlike the Second Gulf War was not an oil war. It is better understood within the strategic/geopolitical context; the war would provide the US with political and security advantages over other nations and oil would not be involved in this in a major way. Nevertheless, the causes of the Iraq war and its related debate are beyond the scope of this essay and have been analyzed elsewhere (see, e.g., Ismael & Ismael 2015; Bassil 2012; Schmidt & Williams 2008; Zunes 2007).

In principle, we follow Streeck and Thelen’s (2005: 8) call to distinguish between the process of change (i.e., the war(s)) and the results of change (i.e., the breakdown of the old political
order and its replacement with a new one). While one of the unique features of institutional change is that it cannot be easily or adequately quantified and this creates obstacles for statistical analysis (Alston 1996: 29), we overcome this problem by using dummy variables; a dummy variable is a 0-1 variable that can best be viewed as an on-off switch. Furthermore, we admit the quality of institutions is very difficult to quantify, while the measurement by some indexes might be subject to qualitative judgments and have a certain bias toward free-market policies (see Chang, 2011: 484-486). Nevertheless, we believe that use of the aggregate annual governance index as a proxy for the degree of governance effectiveness serves the core of our intention. This index supposedly will capture the effects of change in institutional arrangements on the performance of Iraq’s economy for 1998-2012. Thus, we proceed in our examination by introducing the econometric models.

B. Model specification and data

In dealing with institutional changes, the essay utilizes econometric techniques by applying the transfer function approach (see Gardeazabal 2010: 9-10). Thus, we employ a time series regression without and with dynamics\textsuperscript{15} This expands upon transformative linear regression to model growth in the Iraqi economy, in which the attempt is to capture the impacts at the macro level.

The starting point is three important facts to be considered with respect to the Iraqi economy. First, the economy heavily depends on oil revenues; for instance, oil exports account for 96%-99% of total exports for 2000-2011 and the share of oil and gas revenues to total government revenues increased from 68% in 2005 to 97% in 2011 (Revenue Watch Institute, 2013). Furthermore, according to calculations performed by Jiyad (2011: 14), the ratio of oil export revenues to GDP is around 63% for 2007-2012.
Second, oil revenues in turn are determined by three major factors: the quantities of exported oil, the trading price of oil in the international market, and the purchasing power of the US dollar vis-à-vis other currencies (Alnasrawi 1994:156). Third, Iraq is an oil-exporting country with one of the highest reserves in the world. The nation acts as a price taker. It is unable to affect the price in the international market because it is unable to significantly and rapidly change production levels. This means that any upward movements would benefit the economy and vice versa.

As the initial issue of interest here is the relationship between economic growth and institutional changes (i.e., the wars), we build on the pioneering work of Rowat (2007), which estimated the cost of the war for the Iraqi economy for 1997-2004. His attempt was to estimate the economic cost by using a single-equation growth model. More specifically, he regressed growth in real oil prices to the annual growth rate in the real GDP. In addition, he added two dummy variables; first was a pre-war impulse dummy variable set to 1 in 2002, and second was a war impulse dummy variable set to 1 in 2003 as follows:

$$\Delta p_t = \beta_0 + \beta_1 \Delta p_t + d1_{pre} + d2_{inv} + \varepsilon_t.$$  

The model was subject to two major constraints: the scarce or unavailable Iraqi economic data and the very short time span (1997-2004).

Thus in our attempt, we tried to broaden the time horizon and scope of the analysis by adding some important new elements (i.e. independent variables). The oil sector is represented in the two models by including the growth in both oil production and real oil price, as follows:

$$\Delta \text{GDP}_t = \beta_0 + \beta_1 \Delta \text{Poilt} + \beta_2 \Delta \text{Prot} + \beta_3 \text{Dum81} + \beta_4 \text{Dum91} + \beta_5 \text{Dum03} + \varepsilon_t.$$  

where, $\Delta$ is the difference operator, $\Delta \text{GDP}$ is the change in real GDP from UNCTAD, and $\Delta \text{Poilt}$ is the change in crude oil price per barrel, the average spot price of Brent, Dubai, and
West Texas intermediate equally weighted from the World Bank. Both are measured in 2005 US dollars\(^{17}\) $\Delta Prot$ is the change in oil production from OPEC annual reports. Dum81 is a dummy variable for the First Gulf War equal to 1 in 1981 and 0 otherwise, dum91 is a dummy variable for the Second Gulf War of 1990, equal to 1 in 1991 and 0 otherwise, and dum03 is a dummy variable for the Iraq war of 2003, equal to 1 in 2003 and 0 otherwise. $\beta_0$ = Intercept, $\beta_1, \beta_2, \beta_3, \beta_4$ and $\beta_5$ are co-efficients and $\varepsilon_t$ is the error term.

Moreover, to capture the effects of institutional arrangements on the performance of Iraq’s economy, the model is modified by adding a new independent variable for the sub-period 1998-2012: $\Delta Inx$ is the change in the aggregate annual government index for Iraq from WGI. It is the change in the average of the aggregated six indicators of governance for 1998-2012. The index was constructed based on the work by Kaufmann, Kraay and Mastruzzi (2010). Thus, it is used as a proxy to express institutional quality over time. Therefore, the modified model is as follows:

$$\Delta GDP_t = \beta_0 + \beta_1 * \Delta Poil + \beta_2 * \Delta Prot + \beta_3 * Dum03 + \beta_4 * \Delta Inx + \varepsilon_t$$  \hspace{1cm} (II)

There are two determinants in choosing the sample and sub-sample period. First is economic considerations and data availability. The beginning of the sample period is considered by many economists as a sort of golden decade for the Iraqi economy (see e.g. Yousif 2012a). For the modified model (II), we considered 1998 as the beginning of the sub-period because the OFFP of 1996 under UN supervision was expanded; this allowed for selling oil for US $5.25 billion over six months\(^{18}\). The closing date of both samples is 2012 given the available data.

Though Iraqi data are imperfect much like in other developing countries, such data became scarcer during the 1980s and subject to certain manipulation during the 1990s (Yousif 2008: 217). In addition, the actual figures of the Iraqi GDP and unemployment in post-2003 differ from one national and international organization to another and, as a consequence, so do the reported rates of GDP growth and unemployment (see Hong 2010; Rowat 2007). Therefore,
the inadequacy of the data did not help in using the complete structural system for a growth model to capture the dynamics of the Iraqi economy and its performance. To the contrary, this led us to use a single-equation reduced-form growth regression\textsuperscript{19} According to Aron (2000: 101), the major weakness of the latter is that it cannot show the different channels that influence the economic growth. Furthermore, the variables which determine the investment are usually incomplete or include other independent variables.

V. Empirical results

A. Results of Unit Roots Tests

We begin by testing the stationarity of the time series by applying the unit roots for each variable in the model because non-stationary variables would result a spurious regression in which the estimated coefficients are biased (see Wooldridge 2013:639-646). In this context, the augmented Dicky-Fuller (ADF) test has been employed using the software package Eviews 8.

Table 2 shows the estimated statistics of the ADF test for each variable. The results indicate that all the variables are stationary at level I (0) for the sample 1971-2012 and sub-sample 1998-2012 respectively.

Table 2-A. Results of the ADF unit root tests.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Statistic</th>
<th>Results</th>
<th>Variable</th>
<th>ADF Statistic</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Trend &amp; Intercept</td>
<td>Intercept</td>
<td>None</td>
<td>Trend &amp; Intercept</td>
</tr>
<tr>
<td>ΔGDP</td>
<td>5.97</td>
<td>6.43</td>
<td>6.50</td>
<td>I(0)</td>
<td>ΔGDPt-1</td>
</tr>
<tr>
<td>Δ Prot</td>
<td>5.92</td>
<td>6.17</td>
<td>6.23</td>
<td>I(0)</td>
<td>Δ Prot-1</td>
</tr>
<tr>
<td>Δ Poilt</td>
<td>6.03</td>
<td>6.49</td>
<td>6.44</td>
<td>I(0)</td>
<td>Δ Poilt-1</td>
</tr>
</tbody>
</table>
Table 2-B. Results of the ADF unit root test*

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Statistic</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Trend &amp; Intercept</td>
</tr>
<tr>
<td>ΔGDP</td>
<td>4.33</td>
<td>4.51**</td>
</tr>
<tr>
<td>Δ Prot</td>
<td>4.56</td>
<td>4.19**</td>
</tr>
<tr>
<td>Δ Poilt</td>
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<td>4.89</td>
</tr>
<tr>
<td>Δ Ins</td>
<td>4.75</td>
<td>5.39</td>
</tr>
</tbody>
</table>

*) The probabilities and critical value are calculated for N:20 and may not be accurate for N:14

**) t-value less than critical value at the 1% level but greater than the 5% level.

B. Regression results

Model (I) is estimated using ordinary least squares (OLS) from the data for 1971-2012 to validate conclusions about the GDP response to oil production, price, and abrupt institutional change in terms of war. In this regard, first we regressed each independent variable to Δ GDPt (equations (1)-(4)). Second, we regressed all independent variables to Δ GDPt (equation (5)) and finally, after we dropped the insignificant variables, we regressed the significant variables (equation (6)). The results for equations (1)-(6) are displayed in Table 3.
Table 3. Estimated coefficients for model 1.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6) ****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>0.06 ***</td>
<td>0.01</td>
<td>0.10*</td>
<td>0.04</td>
<td>0.05 **</td>
</tr>
<tr>
<td></td>
<td>(1.96)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>∆ Prot</td>
<td>0.72*</td>
<td>--</td>
<td>0.48*</td>
<td>--</td>
<td>0.37*</td>
<td>0.36*</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>(0.07)</td>
<td></td>
<td>(0.08)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>∆ Poilt</td>
<td>--</td>
<td>0.05</td>
<td>0.06</td>
<td>--</td>
<td>0.04</td>
<td>--</td>
</tr>
<tr>
<td></td>
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<td>(0.07)</td>
<td>(0.05)</td>
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<td>(0.05)</td>
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</tr>
<tr>
<td>Dum81</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-0.28 ***</td>
<td>0.02</td>
<td>--</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td>Dum91</td>
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<td>--</td>
<td>-0.76*</td>
<td>-0.36 **</td>
<td>-0.39 **</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.16)</td>
<td>(0.16)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>Dum03</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-0.43*</td>
<td>-0.24 ***</td>
<td>-0.25 ***</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.16)</td>
<td>(0.13)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>R²</td>
<td>0.53</td>
<td>0.012</td>
<td>0.55</td>
<td>0.44</td>
<td>0.63</td>
<td>0.62</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.52</td>
<td>-0.012</td>
<td>0.53</td>
<td>0.40</td>
<td>0.58</td>
<td>0.59</td>
</tr>
<tr>
<td>F-statistic</td>
<td>46.83</td>
<td>0.49</td>
<td>24.50</td>
<td>10.24</td>
<td>12.51</td>
<td>21.16</td>
</tr>
<tr>
<td>(Prob.)</td>
<td>(0.00)</td>
<td>(0.48)</td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>D.W.</td>
<td>2.59</td>
<td>2.10</td>
<td>2.57</td>
<td>1.84</td>
<td>2.57</td>
<td>2.57</td>
</tr>
</tbody>
</table>

*) p-value of 1% (0.01) or lower, **) p-value greater than 1% (0.01) but less than 5% (0.05), and **** p-value greater than 5% (0.05) but less than 10% (0.10). No. of observation: 42. Standard errors appear in parentheses. In equation (6), we dropped the insignificant variables in equation (5) (i.e., ΔPoilt and Dum81).

Broadly speaking, the signs of regression coefficients are the same across the estimations and consistent with the economic logic and expectations. More specifically, the signs of the coefficients associated with the real oil price and production are positive. The positive signs are consistent with the economic logic that an increase in the oil production and/or price tends to increase Iraqi GDP. Moreover, the coefficients associated with the wars (dummy 81, dummy 91, and dummy 03) are unsurprisingly negative and statistically significant because the wars constitute a negative shock to the economy and diminish the GDP. However, an exception is (equation (5)), in which dummy 81 is positive and statistically insignificant. This might be attributed to omitted independent variables (e.g., foreign debt, and external grants).
The results show that the aforementioned effects diminish when adding oil production as an explanatory variable. This is understandable as the production of oil has a positive effect on the GDP because oil provides the biggest percentage of public revenue that is channeled to consumption and investment, including reconstruction necessitated by war damages. This would cause a decrease in the negative impact of the wars. However, in equation (6) the negative effects of dum91 alone exceed the positive effects of oil production. This might indicate that the Iraqi economy is witnessing an economic regression because of the devastating consequences of these wars.

At the same time, the oil price does not reveal a statistically significant effect on GDP in any of the equations, including the benchmark model (equation (5)). These results can be attributed to both the GDP and oil price which might have depended on a third factor (the shock caused by the wars) as the cause for the increase in oil prices in the international market on one hand and the decline in GDP on the other (Hamilton, 2008, p. 1) because these wars are one cause for the oil spike in international markets in anticipation of supply disruptions. In contrast, the Iraqi economy did not benefit because Iraq’s production was eliminated totally or partially while other oil producers increased their production to offset the lost Iraqi supplies. Nevertheless, this possibility has not been explored.

Also, the Iraqi economy was subjected to multi-structural breaks in the period under study (i.e., three wars and UN sanctions), which is characterized as economically unusual by all standards. This is reflected in Iraq’s role as a producer in OPEC being uncertain after the end of Second Gulf War (Kaufmann 2004: 75). Furthermore, Iraq’s economy was dependent during the war with Iran on using the accumulated foreign reserves of US $35 billion, foreign debt, and external grants from Gulf states, in particular Saudi Arabia and Kuwait (Alnasrawi 1994: 81, 157). Kuwait’s share, for example, was US $16 billion (Sassoon 2011: 138). Moreover, even after the country returned to the oil market in 1998 as a result of
implementing the OFFP, oil exports were halted at various times during 2000-2001 by the Iraqi government in reaction to the UN Security Council’s attempts to control smuggling activities (Rowat, 2007: 237). Actually, the political dynamic of sanctions was the major driver of production levels and market considerations came in second place (see Marbo, 1999). In sum, all these factors likely make it difficult to observe the oil price-GDP relationship.

Finally, to account for the dynamic relationship, we estimate the dynamic form of equation (6) in Table 3 by adding a lag of GDP and oil production, as follows:

\[ \Delta \text{GDP}_t = \beta_0 + \beta_1 \times \text{GDP}_{t-1} + \beta_2 \times \Delta \text{Prot}_{t-1} + \beta_3 \times \text{Prot}_{t-1} + \beta_4 \times \text{Dum91} + \beta_5 \times \text{Dum03} + \varepsilon_t \]  

(7)

We obtained the following results:

\[ \Delta \text{GDP}_t = 0.05^{**} - 0.29^{**} \text{GDP}_{t-1} + 0.36 \times \text{Prot} + 0.23^{**} \times \text{Prot}_{t-1} - 0.34^{**} \times \text{Dum91} - 0.23^{**} \times \text{Dum03} \]

(0.02) (0.14) (0.07) (0.09) (0.15) (0.13)

N:44  \( R^2:0.68 \)  Adj. \( R^2:0.63 \)  F:15.03  Prob:0.00  Durbin-Watson : 2.00

It is clear from the values of \( R^2 \) and adjusted \( R^2 \) that there is explanatory power (in equations (4), (5), (6) and (7) of model (I)) which remains in the residuals. This would include, for example, how these shocks indirectly affected the growth in GDP through the monetary policy (issuance of new notes), which responded to the enormous deficit in public finance during the First Gulf War and UN sanctions in particular.

For the modified model (II) which covers the sub-period 1998-2012, the results are displayed in Table 4 in equations (1)-(8).
The results show that the Iraqi economy experienced a negative impact of the 2003 war. Actually, it still operates under the shock of the war and its consequences, which has a big negative impact on GDP growth. Also, the institutional variable has a negative effect on GDP growth, which suggests that the institutional arrangements did not enhance the process of economic development.

It is worth noting here that the model measures one direction of causality from institutional arrangements to growth, while there is the opposite direction from improved growth to better institutional arrangements (see Aron 2000: 115; Chang 2011: 475-476). The latter is not formerly explored because the institutional arrangements are still actually under construction.

Table 4. **OLS estimates for dependent variable: GDP**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.47</td>
<td>8.46</td>
<td>0.98</td>
<td>11.00**</td>
<td>10.36**</td>
<td>12.65*</td>
<td>5.05***</td>
<td>5.65*</td>
</tr>
<tr>
<td></td>
<td>(1.96)</td>
<td>(5.78)</td>
<td>(2.22)</td>
<td>(4.19)</td>
<td>(4.24)</td>
<td>(3.47)</td>
<td>(2.30)</td>
<td>(1.77)</td>
</tr>
<tr>
<td>∆ Prot</td>
<td>0.72*</td>
<td>--</td>
<td>0.74*</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.57*</td>
<td>0.56*</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>∆Poilt</td>
<td>--</td>
<td>-0.03</td>
<td>0.10</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.02</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>(0.21)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>Dum03</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-44.00*</td>
<td>--</td>
<td>-38.82*</td>
<td>-15.19***</td>
<td>-15.83**</td>
</tr>
<tr>
<td>∆lnx</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-1.56**</td>
<td>-1.36*</td>
<td>-0.57***</td>
<td>-0.61**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.61)</td>
<td>(0.49)</td>
<td>(0.26)</td>
<td>(0.23)</td>
</tr>
</tbody>
</table>

R²: 0.86  Adj. R²: 0.85  F-statistic: 82.72  No. of observations: 42

| Durbin-Watson         | 2.00  | 2.29  | 1.96  | 1.71  | 1.57  | 1.37  | 1.58  | 1.62  |
|                       | (0.00)| (0.00)| (0.01)| (0.01)| (0.02)| (0.00)| (0.00)| (0.00)|

*) p-value of 1% (0.01) or lower, **) p-value greater than 1% (0.01) but less than 5% (0.05), and *** p-value greater than 5% (0.05) but less than 10% (0.10). No. of observations: 42. Standard errors appear in parentheses.
Though model (II) faces a shortness of data span (i.e., small sample of 14 observations), the period close to business-cycle frequencies is based on high oil prices in international market. However, even if the data series were available for additional dependent variables, it would essentially include more variables than the degree of freedom allowed us (Wooldridge 2013). Finally, by considering the results of model (II), we can outline a possible association between growth and institutions. However the results do not provide a definite conclusion and thus should be treated with caution like other models dealing with the same relationship (see Aron, 2000). In this context, understanding the causal factors behind mentioned associations remains a challenge. At the same time the obtained results are notably consistent with the economic logic and the actual circumstances on the ground. In the following section, a detailed discussion of the results is provided.

VI. Discussion

In this section, first we discuss the implemented institutional policies. This discussion highlights the main obstacles hindering the creation of new institutional arrangements that enhance sustained economic growth. Second, within the context of the results discussion, we carry out a static comparative examination of the pre- and post-war situation.

The Iraq economy was subject to economic reform in 1987 which aimed to increase the role of the private sector. However, before 2003, it was to a large extent considered a state-run economy under the UN sanctions (Merza 2008: 1). For the post-war period, Sanford (2003) acknowledged a need to create institutions that serve to stabilize the economy and put in place a new set of rules that reorganized the society to allow for smooth transformation to a market economy and thus serve as an engine for sustained long-term growth.

In this context, the real challenge to actual policy is to find an adequate method for transition from one situation to another (Nye 2008: 75). More specifically, the policy model which
defined the choice set, prioritized the choice set and described the relationship between the objectives and means (Eggertsson 2008: 26).

In principle, the Coalition Provisional Authority (CPA) and post-war successive governments identified the need to make the economy market-driven and establish market institutions, which constitutes a clear view to solve the inherited inefficiency in the Iraqi economy. In this vein, Atiyyah (2008) highlighted that, no effective plans existed for the post-war period. This essentially included the lack of a detailed economic plan, although CPA had a clear pro-market approach that it operationalized on the ground.

However, the initial condition of the post-war state institutions was weak and the economy was crippled. The causes lie mainly in the accumulated negative effects of three wars, more than a decade of UN sanctions, widespread looting of Iraq’s institutions after the fall of the regime and the elimination of Baath members from state institutions (Dodge 2013a: 252). In addition, the war caused razing of the previous structure of authority and the related decision-making institutions and organizational arrangements (Mahdi 2007). In these circumstances, the CPA adopted an institutional policy based on swift transition to a market-based economy (i.e., privatization of state establishments, including the oil industry, trade liberation, and demolishing agriculture subsidies), which seemed unsuitable. This constituted a dramatic change between the restructured economy along liberal lines by wholesale privatization and the economy pre-2003 in which the economic and administrative institutions were weakened by the sanctions and guided by a personalized system in which benefits were favorably distributed to loyalists and close tribal links (Sassoon 2011: 134). Therefore, the adopted market’s shock therapy is a grossly ill-suited reform policy because it simply ignores the historical political context of the country and the interventionist role of the state in Iraq’s economic history (Yousif 2006: 491).
Actually, a widespread culture of dependence on the state has been developed over decades in which the state used oil revenues to subsidize foods and services (Atiyyah 2008). Furthermore, the level of organizational capacity and industry are relatively low compared with Eastern Europe, for example (Sassoon 2011: 130), while over decades, the nation lost human and physical capital on a large scale in comparison with other eastern European economics in transition (Rowat 2007: 242).

According to Merza (2008: 18), the privatization process was put off for several reasons. First, the plan involved a large number of state-owned establishments, while the available information was not sufficient and this was coupled with a lack of qualified personnel to carry out such task. Second, there was fear that the process would cause a third wave of layoffs for workers, after the dissolution of the army and the de-Ba'athification, and fuel more violence and insecurity. Finally, there was opposition to privatization of the oil industry. However, the CPA officials pointed out that the main cause for postponing the privatization plans was international legal obligations imposed on the CPA and not the opposition of labor unions (Foote et al., 2004; Yousif, 2007: 53).

On the other hand, while Iraq is characterized as a heterogeneous society with high ethnic, religious, and cultural variation, since the 1990s the state capability to provide social services has decreased to a large extent because of sanctions. This includes even the basic public goods such law and order (Yousif 2015: 25). The consequences of sanctions in the 1990s were not limited to the relationship between the state and society but likewise related to the positions and relationships among different group in society (Mahdi, 2007). In addition, in response to the existing political suppression of secular organizations of civil society, many Iraqis have linked themselves to religious, tribal, and ethnic identities (Davis 2007: 5; Davis 2010: 349). These links strengthened their foundation within the increasing vacuum of security and rule of law for the post-war period (Atiyyah, 2008).
Even though one strength of a heterogeneous society is that it is more flexible in responding to rapid changes in the market environment, there is fertile ground for conflict among the different groups (Nye 2008:75). Thus, in the post-war era, the cornerstone of political process was formation of the Iraqi Governing Council in 2003 based on religious and ethnic quotas which initially aimed to create a formula of power-sharing rule based on representation of a diversified society. Nevertheless, it sent a clear signal that the new political order is not based on nationalist politics but on sectarian and ethnic identities (Davis, 2007: 2; Yousif & Davis 2011: 249). This created additional obstacles for finding alternative institutional arrangements and thus made the re-establishment of civil peace difficult because it created the grounds for the ongoing conflict of identity among Iraqis, while the deep-rooted secular forces in the society were obliged to step aside on account of sectarian parties (Atiyyah, 2008). This led to increasing tension in Iraqi society and a sense of polarization along ethnic and religious background (Yousif 2007: 57).

Quite to the contrary, Field (2012: 2) suggested that the maturity of the political process itself is not sufficient to contribute positively to economic development by adopting an effective economic policy. This is reflected in the failure to pass important legislation such as the oil and gas law and infrastructure law; this also includes the regulation of political parties.

This analysis highlights the actual constraints in changing the formal rules (laws) under the new political order. More specifically, a certain process must be followed according to valid constitutional means, where the cabinet has to pass laws in the House of Deputies. Thought democracy usually open space for various groups to be better represented in politics, their conflicting demands for distributive polices are a source of legislative deadlocks and likewise may led to accommodating their demands by increasing the size of government (see Alesina & Perotti 1994). However, Field’s argument turns a blind eye to the nature of the new political order and governing coalition. Actually, the process of change, restructuring
formal rules and substituting new formal institutions in place of the old ones, faces serious obstacles because it is an outcome from a governing coalition based on wide national consensus essentially framed on ethnic and religious quotas\textsuperscript{21}

In the same line, North, Wallis, & Weingast (2009: 42) explained the governing coalition’s behavior by highlighting that the commitment to the constitution or rules is weak as a consequence of fluidity in the governmental coalition itself. Thus, the newly established Iraqi government was big, unstable and vulnerable. The consensus among the governing coalition was short lived; the size of the disputes was too great, which led to incoherent government programs and the outcome was that policies did not follow a definite direction. One striking example is that the number of employees in government agencies tripled in 2003-2014\textsuperscript{22} fueled by the leap in oil revenues, while the announced policy advocated the necessity of increasing the role of the private sector on account of the public sector. In the meantime, the consensus essentially meant the distribution of political and economic benefits and rewards among the new ruling elite and their supporting network, including employment in the public sector.

This explanation is supported by the fact that the quickly produced constitution is not a source of unity for Iraqis but reflects the existing mistrust inherited from the past and is a source for deeper divisions (Atiyyah 2008)\textsuperscript{23} Moreover, it left a number of serious issues to be taken up later by the House of Deputies, such as the control of new oil fields and unexplored oil areas (Allawi 2007: 417) and the nature of the relationship between regional and central governments as well as the distribution of oil resources (Tripp 2007: 300-301).

In fact, one important outcome is that the institutional change strengthened the regional and local leaders on account of the central government. This is marked by the increasing autonomy of the Kurdistan Regional Government, which constitutes a source of economic
fragmentation on account of forming a national macroeconomic policy (Owen 2007: 9; Sassoon 2011: 129). It is also a cause for continuous tension between the central and regional authorities, especially in connection with development and sale of oil resources (Sassoon, 2013, p.1). This led the rest of the regions to call for creating a similar regional authority on ethnic and religious background.

In these circumstances, the constitution became subject to different interpretations (Al-Oraibi 2013:79). This open-endedness is reflected in continuous attempts by different parties and factions to put in force new rules when they presume that circumstances favor them and also includes going further to attempt physical elimination of one another (see Dodge, 2013a; Dodge, 2013b). Even though no party has the actual elements needed to win by itself (Davis 2010: 353), this would be a source of further internal conflict among the competing parties inside the governing coalition. As a consequence, this decreases the House of Deputies’ ability to pass the laws drafted by the government. In other words, this led to inability to establish an effective and coordinate decision-making process. Thus, the potential result is that continuous disputes will result in a series of violent actions while a long-term compromise acceptable to the involved parties is still far away.

According to North (1995: 25), economic performance is shaped by polities in which the politics define and enforce the economic rules of the game. Thus, under an institutional policy that advocates the role of the market and private sector in the economy, well-defined and enforced property rights institutions are vital because these institutions form the incentive structure, and this structure has particular and predictable effects on the behavioral norms of economic actors (Pejovich 1990: 3). Likewise, these institutions regulate the use of scarce resources by determining and enforcing the ownership structure, the nature of rights, and the duties of various actors in the economy (Libecap 1989: 10; Eggertsson 2008: 27).
For Iraq, the post-war state is not able to enforce property rights; the institutional policy of successive governments has revealed the historically insecure and shaky nature of property rights and how the state helps to fortify existing rights (Yousif 2006: 501-502). In the oil sector, for example, the national law has not yet been shaped despite the dire need for a clear legal framework for working with foreign oil companies which ensures the property rights for both parties in the long run (Dhume 2008: 8). To deal with the large number of property claims, it took some time to settle the shape of the administrative entity in terms of a specialized commission. Thus, the Property Claims Commission was established to address legitimate property rights concerns of common citizens in different governates, and particularly Kirkuk Governance, while the payment of compensation amounts is under big constraints regarding allocations by the Ministry of Finance. This is happening in an environment characterized by negative trends in political stability, insecurity, decreasing rule of law, and chronic corruption, as shown in Table 5.
### Table 5. Aggregate indicators for pre and post Iraq war

<table>
<thead>
<tr>
<th>Period</th>
<th>Overall Score for the WIG Index (average)*</th>
<th>Voice and Accountability</th>
<th>Political Stability and Absence of Violence/ Terrorism</th>
<th>Government Effectiveness</th>
<th>Regulatory Quality</th>
<th>Rule of Law</th>
<th>Control of Corruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-2002</td>
<td>-1.74</td>
<td>-1.97</td>
<td>-1.71</td>
<td>-1.88</td>
<td>-2.09</td>
<td>-1.38</td>
<td>-1.44</td>
</tr>
<tr>
<td>2003-2012</td>
<td>-1.59</td>
<td>-1.28</td>
<td>-2.47</td>
<td>-1.42</td>
<td>-1.28</td>
<td>-1.40</td>
<td>-1.72</td>
</tr>
<tr>
<td>Change</td>
<td>Improve</td>
<td>Improve</td>
<td>Deteriorate</td>
<td>Improve</td>
<td>Improve</td>
<td>Deteriorate</td>
<td>Deteriorate</td>
</tr>
<tr>
<td>% Change</td>
<td>8.6</td>
<td>35</td>
<td>-44</td>
<td>24</td>
<td>38</td>
<td>-1.40</td>
<td>-19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Period</th>
<th>Overall Score for the ESCWA Index **</th>
<th>Political</th>
<th>Security</th>
<th>Economic</th>
<th>Social Welfare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-2002</td>
<td>3.86</td>
<td>0.72</td>
<td>6.72</td>
<td>4.17</td>
<td>3.84</td>
</tr>
<tr>
<td>2003-2008</td>
<td>3.15</td>
<td>1.59</td>
<td>3.34</td>
<td>2.77</td>
<td>4.89</td>
</tr>
<tr>
<td>Change</td>
<td>Deteriorate</td>
<td>Improve</td>
<td>Deteriorate</td>
<td>Deteriorate</td>
<td>Improve</td>
</tr>
<tr>
<td>% Change</td>
<td>-18.39</td>
<td>120.83</td>
<td>-50.29</td>
<td>-33.57</td>
<td>27.34</td>
</tr>
</tbody>
</table>

*) WIG covers 1996-2012 on an annual basis except 1997, 1999, and 2001. The estimate of governance performance ranges from approximately -2.5 (weak) to 2.5 (strong). For the purpose of this study, first we handled the missing observations by averaging the two years value. Second, we computed the overall index as an average of 6 annual indexes for two sub-periods, 1996-2002 and 2003-2012.

**) The ESCWA Index is a composite Millennium Development Goals (MDG) Index by Basket and Triennium for conflict-affected countries and territories of the ESCWA region. The index covers 1997-2008 and is divided into four sub-periods 1997-1999, 2000-2002, 2003-2005 and 2006-2008; the score ranges from zero (worst) to 10 (best) for each indicator. For the purpose of this study, first we computed the average index for two sub-periods, 1997-2002 and 2003-2008. Second we computed the overall index as an average of above the mentioned two indexes.

Source:

In our attempt to carry out a static comparative analysis between the pre- and post-war conditions, we utilize the aggregate indicators calculated by the Worldwide Governance Indicators project of the World Bank and Economic and Social Commission for Western Asia (ESCWA) for 1996-2012 and 1997-2008, respectively. In this regard, we build up Table 5, in which we divide the aforementioned periods into two sub-periods as specified above. The table displays the indicators for the developments in democracy, the quality of state institutions, and political instability. Thus, the table shows that the quality of institutional
arrangements has been changing in two ways: The first is the development of each indicator and the second the average out as a single measure of institutional quality.

Table 5 shows a remarkable improvement in the index of voice and accountability, likewise for the political index of ESCWA. These demonstrate a milestone in Iraq’s progress; compared with the previous regime, there is great political liberalization today. Though elections are the core of any democracy, democracy is much more than just elections (North, Wallis & Weingast, p. 265). The index which measures political instability, violence, and terrorism attacks had the biggest decline among the other indexes (−44%). If we take into account the regression in control of corruption and rule of law, the picture would be darker despite a relatively small improvement in the overall index. In the same vein, the ESCWA Index for Security reports regression for half the period of 2003-2008 compared with 1997-2002 and this includes the regression of the economic index to one-third. As a result, the overall index witnessed a negative change of 18.39% 26

In continuing our attempt to carry out a static comparative analysis, Table 6 provides macro-economic indicators for 1996-2012. We also divided the period into two sub-periods (1996-2002 and 2003-2012).

<table>
<thead>
<tr>
<th>The period</th>
<th>GDP in Billion USD (constant price 2005)</th>
<th>GDP per Capita in USD (constant price 2005)</th>
<th>Crude Oil Production (1000 barrel Daily Average)</th>
<th>Oil Price*</th>
<th>Oil Exports** (1000 barrel per Day)</th>
<th>Oil export revenues USD per day 4*5</th>
<th>Rate of Exchange (Iraqi Dinars for one USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound Annual Growth Rate % 1996-2002</td>
<td>10.97</td>
<td>7.63</td>
<td>19.22</td>
<td>7.13</td>
<td>45.10</td>
<td>12.69</td>
<td>-8.95</td>
</tr>
<tr>
<td>Compound Annual Growth Rate % 2003-2012</td>
<td>10.85</td>
<td>8.01</td>
<td>8.80</td>
<td>11.75</td>
<td>24.60</td>
<td>39.</td>
<td>-2.08</td>
</tr>
<tr>
<td>Average 1996-2002</td>
<td>29.96</td>
<td>1286</td>
<td>2079</td>
<td>23.26***</td>
<td>1398</td>
<td>37.09</td>
<td>1787</td>
</tr>
<tr>
<td>Average 2003-2012</td>
<td>42.06</td>
<td>1425</td>
<td>2190</td>
<td>63.36</td>
<td>1575</td>
<td>120.83</td>
<td>1316</td>
</tr>
</tbody>
</table>

*) Crude oil is the average spot price of Brent, Dubai, and West Texas intermediate equally weighted data.

**) There is a significant differences in crude oil export figures reported by Al-Amir (2015) for 2003-2006 in comparison with OPEC annual reports. The cause may lies mainly in the delay in installation of oil meters for southern crude oil exports three years after the break out of the war in 2003 (Khadduri 2011: 103).

Source:


Usually, the transition period from dictatorship to democratic political regime is characterized by instability on political and social levels; essentially the period would witness low growth (Alesina & Perotti 1994: 359). For the case of Eastern Europe, the disorganization associated with transition from a planned to a market economy in the 1990s may provide a partial explanation for the case in hand (see Blanchard & Kremer 1997).
Nevertheless, the figures of Iraqi GDP show a significant increase (see Table 6). The major reason for the rosy view of Iraq’s economy for 2003-2012 is the high prices for crude oil. In the meantime, there was only marginal expansion in average oil production and exports, while Iraq’s quota in OPEC was suspended. This is reflected in increasing public revenues to the Iraqi government.

In this context, the head of the financial committee in the House of Deputies announced that the total amount earned from exported oil for 2006-2014 was US $552.8 billion. Along the same line, the total expenditures for 2006-2009 reached US $158 billion, where $124 billion was allocated to operational expenditures and the rest to investment (General Secretariat for the Council of Ministers, 2010). In 2013, the allocated amount for development reached US $47 billion in comparison with $19 billion in 2008 (Butter 2013: 29). Nevertheless according to Table 6, the compound growth in GDP for the post-war period (i.e., 10.85%) does not exceed that of the pre-war period (i.e., 10.97%). One reason is that even when the oil revenues increase, the ability to spend the allocated investment is considered low due to the limited capacity of the Iraqi economy to absorb capital investments (Alnasrawi, 1994, p. 81; Yousif, 2007, p. 47). Furthermore, the fragile security, political instability and corruption constitute a serious problem for development programs and reconstruction efforts (see Yousif, 2015; Sawaan 2013).

On the other hand, the increasing oil revenues led the former role of rentier state to gain more strength with time and the Iraqi economy followed a consistent pathway toward complete dependence on oil, while the notion of development after 2003 was hindered by the priority on achieving progress in specific sectors, namely, production of oil and electricity (Owen 2007: 98-99). Thus, the long-term projects in the industry and agriculture sectors did not receive the required attention (Sassoon 2011: 130). Furthermore, the perception of the state as an agent of public welfare did not recover in the post-war period or at least did not witness
any real improvement because the state failed to deliver the basic needs to the Iraqi population; for instance, drinking water was available for only two hours per day in 2012, while 25% of the population still doesn’t have access to safe drinking water (Dodge 2013a: 253). In addition, as of late 2012, the Iraqi citizen provided by 10-12 hours of electricity a day (O’Hanlon & Livingston 2013:11). Moreover, despite the high growth in GDP, the poverty gap increased because the increase in GDP did not trickle down to the majority of citizens at the bottom in comparison with the biggest fraction gained by the top (Yousif, 2013).

Furthermore, in ordinary circumstances, the dependence of Iraq’s economy on production and export of crude oil constitutes a source of economic shock in case of negative price movements and fluctuations in global demand (Dhume, 2008: 5). The matter becomes more complicated when we consider the fluctuations in oil production caused by the Iraq war. If we consider 2001 as a reference point for the pre-war situation, crude oil production was 2.5 mbd and export was more than 2 mbd. It took about eight years to increase the production beyond that level. In 2011 and 2012, there is a clear increasing trend in both production and export. Nevertheless, this volatility was a big source of disruptions to the economy and had a direct impact on Iraqi citizens (e.g., public services, employment opportunities, maintenance of a sufficient supply of electricity and availability of water treatment, hospital services) (Stiglitz & Bilmes, 2010: 36).

With all these things in mind, it is also important to examine the change in the value of citizenship for Iraqis and its status through the lenses of the property rights approach of NIE. According to Furubotn and Richer (2005: 475), there are two vital points. First, there is high material value for the citizens’ demand for protection from the state during war and civil war in particular; this is reflected clearly by the insecure position of refugees. Second, the national wealth of the nation determines the economic value of its citizenship. Thus, for citizens,
national welfare is very important. This is shown in the attitude of people toward emigrating from poor countries to rich countries.

For ordinary Iraqis, citizenship was subject to a dramatic decline in value; the striking evidence is emigration. On one hand, the state is unable to provide welfare and sufficient opportunities for employment while the security of the citizens is under serious threat. On the other, the post-war political market created new forms of political competition based on mobilization of supporters according to their ethnic and religious background in exchange for promises of expanded governmental employment and improved living standards for voters. These factors represent a setback to the concept of national citizenship and its value in the eyes of citizens. In the meantime, it constitutes a source of discrimination among citizens who belong to ethno-sectarian minorities.

These pushing forces are reflected in the many talented people who have left the country since 2003 and this brain drain reached its peak in 2005-2007 as a consequence of civil war (Sassoon 2013: 2) 29 However, this negative trend did not shift its direction even after relative improvement in the security situation (see Stiglitz & Bilmes 2010:35-36; Sassoon, 2011: 140-151). On the contrary, the attitude toward emigration among youth between 15 and 29 is relatively high despite the recognized wealth of the nation in terms of oil and gas. According to Iraq Human Development Report (2014), the desire for emigration among the youth is 22.2% on the national level for both genders, while it is about 31% in Baghdad and about 41% among males, for whom the motivation is the likelihood of obtaining a higher income or more job opportunities. On the national level, the main reasons behind this desire are building a better future in another country and the lack security or stability (Iraq Human Development Report 2014: 180-181).
Despite of this gloomy picture, there were some success stories in rebuilding Iraqi institutions, especially in the financial sector: setting up a new stock exchange, rebuilding an independent central bank, and issuing new currency (Sassoon 2011: 138; Yousif, 2006: 459)\textsuperscript{30} In addition to the leading role played by the US in the Paris Club to reach debt relief of 80% of an estimated US $120.2 billion of Iraqi sovereign debt (Buckley 2006: 141)\textsuperscript{31} international support for reconstruction of the Iraqi economy was relatively demonstrated by the Madrid Conference for Donors in 2003 (See Allawi 2007: 199-201).

With the increase in oil prices, the foreign reserves increased to US $70 billion at the end of 2012 (IMF 2013: 8) and the implemented monetary policy of the central bank played a vital role in improving and stabilizing Iraqi currency; the exchange rate for Iraqi currency was close to Iraq dinars 1,200 per US dollar and the rate of inflation dropped from two digits to one in 2008-2011 (Dagar 2014: 42). However, lowering inflation and strengthening the exchange rate against foreign currencies are still serious concerns despite the intensified efforts by the central bank to control them during the period of study. Likewise, the independence of the central bank was subject to continuous pressure from the central government in Baghdad (see Dodge, 2013a; 2013c)

Although the initial figure estimated by the World Bank stated that the required amount to make the Iraqi economy function at a pre-war level is US $17.5 billion (Yousif 2007:55), the US alone spent more than US $56 billion to rebuild the infrastructure and institutions in 2003-2012 (O’Hanlon & Livingston 2013: 5). For a nation affected by long periods of war and UN sanctions, the expected resources seemingly were not sufficient to sustain the pre-war 2003 standard of living (Merza 2008: 21). In this context, Yousif summarized to Fortin (2013) in very few words the main causes of why things haven’t gotten better, when he emphasized implicitly the role of path dependence and the deteriorated social fabric:
“Iraq has gone through wars that completely disrupted civil society. They went through years of [UN] sanctions. They went through de-Ba'athification, which took away a lot of the government personnel. So to expect this country to pop back into shape now is unreasonable. The threats are really quite real, and quite severe.”

**Concluding Remarks**

The contemporary history of Iraq has experienced through time sharp turning points by abrupt (discontinuous) rather than incremental processes. Since the 1980s, the turning points have unfolded by drastic disruptions (i.e., the wars and UN sanction). In this work, we follow a quantitative mode of enquiry to determine the impacts of abrupt institutional changes on economic performance. Thus, we built two econometric models to capture the effect of the abrupt institutional changes on the growth in GDP by using (OLS).

The obtained results show the negative association between the growth in GDP as a dependent variable and the wars on one hand and the institutional arrangements on the other. This reflects perhaps unsurprisingly the destructive realities of the wars. Likewise, the institutional variable is found an important determinant of growth. Moreover, the static comparison provides evidence that the standard of living for Iraqis is not much better than it otherwise has been. Though our models are highly simplified, we believe they capture fundamental aspects of the relationship between economic performance and institutions.

The establishment of institutional arrangement which would promote sustained economic growth in post-2003 war has proved to be a complicated process even with the availability of financial resources in which politics, economics, and social factors interact with each other. Specifically, there are serious challenges as a consequence of the adopted unsuitable institutional policies. In this vein, the institutional policies led to establishment of a weak government which was unable to enhance economic growth. Moreover, while an important mean in the institutional policy is state institutions, weakness of state institutions which was inherited from the past has been ignored and these institutions have been further weakened by
the implemented policies, including the de-Ba'athification and dissolution of the Iraqi army from one side and the accelerated emigration of professionals and bureaucrats from the other. This leads us to conclude that, even for a resource-rich country like Iraq in which constraints of financial resources are not a major obstacle, the effects of discontinuous institutional change is neither less risky nor less expensive than the status quo.

The conclusion is that neither the CPA institutional policies and successive governments that followed nor the Iraqi government before the war had better institutional policies. Rather, additional evidence in line with the point of view advocated by Yousif (2007: 57) suggests that the post-war situation is an outcome of particular institutional policies within the factual social and economic conditions of a nation that has experienced a decade of armed conflicts and international sanctions. These events led to a number of undesirable results, including accelerating the social disintegration of a highly diversified population. Actually, the degree of uncertainty continues high as before the 2003 war hand in hand with the increased social tension after 2003, contributing to the general sense of instability. Thus, the new institutional arrangements seemingly are not able to provide incentive for production activities.

The Iraq case constitutes a source of complexity for any efforts to capture the different aspects of abrupt institutional change brought about by the 2003 war and its influence on the path of development. Moreover, the country witnessed a civil war in 2006-2007, which has its own negative effects. Thus, the institutional change in terms of the Iraq war of 2003 and its aftermath is an unusual case. It is a mixture of ongoing conflict, political instability, and terrorism attacks, while the economic impacts of each of them are quite different (see Gardeazabal 2010: 22).

While a single essay cannot explore the different effects of institutional change on economic performance at all analytic levels, the two econometric models used in this study explained
important aspects of the macro-economic relationship between the growth in output and the abrupt change in institutions. However, it is worth noting that the models dealt with macro-economic costs while there are also micro-economic costs for individuals, their families, and companies (Stiglitz & Bilmes 2010: 25) which are not included. Thus, more scholarly attention is needed on the regional, sectoral, and firm levels.

3336 Notes

1. Sassoon (1987:145) points out that, despite the frequent changes in government under monarchy (1921-1958), the institutional policies were marked by a certain continuity from successive governments by building on previous works.

2. In his comprehensive study on the cost of Iraq-Iran war, Mofid (1990) estimated a US $452.6 billion loss to the Iraqi economy alone.

3. For more details about the costs of the Second Gulf War: see Alnasrawi (1992, 1994).


5. For more details about Iraqi refugees’ crisis: see Sassoon (2011) and about civilian death and injury in Iraq: see Crawford (2013).

6. The essay focuses on the war(s) as a source of abrupt institutional changes and how the institutional arrangement (i.e., rules, norms, and enforcement) including the institutional policies would affect the performance of the economy. Hence, for most of the essay we deal with the formal rules and their enforcement within the existing norms in the society because norms actually are subject to change in the long run.

7. After the Musaddeq crisis in Iran, Iraq signed more favorable deals with the oil companies in 1952, where Prime Minister Nuri Al-said was the chief of the Iraqi negotiation team. As a result, Iraqi oil revenues increased from £2 million to £79.9 million in 1948–1958 (Franzén, 2009: 88).

8. Oil rents are “the difference between the value of crude oil production at world prices and total costs of production” (World Bank 2015a).

9. According to Mahdavy,( 1970, p. 248 ), a rentier state is defined as a country that receives substantial revenues of external rent regularly, and this external rent (such as oil revenues) is paid by foreign entities (individuals, companies and countries).

10. These six indexes are: Index 1: voice and accountability, Index 2: political stability no violence, Index 3: government effectiveness, Index 4: regulatory quality, Index 5: control corruption and Index 6: rule of law. The estimate of governance performance ranges from approximately -2.5 (weak) to 2.5 (strong). For more details about the methodology of the index, see Kaufmann, Kraay and Mastruzzi (2010).

11. The constitution was neither able to act as an inclusive national compact nor take way the deep concern of the Sunni Arab community: see Allawi (2007: 414-415).

12. North and Thomas (cited in Acemoglu, Johnson, & Robinson, 2005, p. 385) stated that: “the factors we have listed (innovation, economies of scale, education, capital accumulation. etc.) are not causes of growth; they are growth” (italics in original).

13. Webster (2007) provided a comprehensive literature review on the cost of the Iraq war of 2003. Thus, he carried out a comparative examination to the works of Nordhaus (2002), Stiglitz and Bilmes (2006), and Wallsten
and Kosec (2005), while Edwards (2010) provides a description and comparative review of the different approaches that have been used in calculating the costs.

14. The predication markets provide some useful insights for the risk of war in Iraq including the movements in oil price. For more details see Wolfers and Zitzewitz (2004).

15. Private correspondence with Professor J. Gardeazabal-University of Basque Country-Spain dated May 19, 2015.

16. The models omit the investment variable but it replaced by two variables (production of oil and oil price) that determine to a large extent the public revenues and thus the investments.

17. According to economic theory, what matters for economic decisions is the real oil price rather than the nominal price (Hamilton, 2008, p. 2).

18. In April 1995, the Security Council (SC) adopted Resolution 986, which allowed Iraq to export $2 billion in oil every six months and went into effect in May 1996, while the first shipment of exported oil occurred in December 1996. In February 1998, the SC raised the ceiling to $5.256 billion every six months to meet the food and medical needs of the Iraqi population, and the ceiling was abolished by the SC in December 1999 to provide incentive to the Iraqi government for effective collaboration with the international efforts in the search for weapons of mass destruction. For more details, see Zedalis (2007) and Sanford (2003:16-17).

19. In his survey of the literature on growth and institutions, Aron (2000) emphasizes the differences between the results from reduced-form models and those from structural models for growth; the latter consists of at least two equations, usually based on economic theory.

20. One reason could be that the OLS estimates cannot capture the relationship between oil price and GDP. Nevertheless, other forms of models (e.g., log asymmetric) were tried without a significant effect on the obtained results.

21. According to two articles published in the Daily Mail and The Washington Times on November 1 and 2, 2010 respectively, the Iraqi members of the House of Deputies stay free in Baghdad's hotel, while each one of them picked up a fee of $90,000 and a monthly salary of $22,500 for doing almost nothing.

22. The head of economic advisers in the Council of Ministers announced that the number of employees in government agencies tripled; it increased from 1.1 million in 2003 to 3.5 million in 2014. Available at http://www.alsumaria.tv/news/991455/ع-أضعاف-أرتفاع-الموظفين-ارتفع-عدد-الموظفين-ارتفع-ثلاثة-اضعاف-. Even more, the comparable number of public sector employees is higher in the Kurdistan Regional Government (KRG) (see Yousif, 2013, p.11). Furthermore, the number of the central governments’ ministries increased from 23 in the last cabinet before the war to 31 in the interim government and then to 34 in 2010 and ministries in the KRG have risen from 24 in the fourth cabinet (1999-2006) to 45 in 2011.

23. For detailed discussion about the constitution see Jawad (2013).

24. The first property claims commission was founded by regulation no. 12, singed by Paul Bremer on June 23, 2004.

25. While some corruption existed among the state bureaucracies before the 1990s, the corruption expanded a considerable degree under UN sanctions on account of integrity and professionalism: see Yousif (2015).

26. The Brookings Institute published on a regular basis until July 2013 the Iraq index and, according to the institute, “[the] index is designed to quantify the rebuilding efforts and offer an objective set of criteria for benchmarking performance.” For more details, see http://www.brookings.edu/iraqindex.

27. In a televised interview with Iraqi T.V in October 2015, Dr. Ahmed Chalabi announced that about US $ 312 billion out of US $552.8 billion had been bought by Iraqi private banks, while only US $115 billion had been used to cover the imports of the government. The interview is available at https://www.youtube.com/watch?v=zUY-cbqkfzQ
Iraq has been characterized by a chronic under execution of its capital budget since the 50s. Likewise, there has been a lack of systematic prioritization in Iraq’s capital budgeting decisions for the post-war era. For more details see the World Bank Report (2014).

In fact this brain drain is not a new event as it seems inseparable from the frequent changes in politics but the brain drain accelerated dramatically after the 1990s, especially after the Second Gulf War. Yousif (2015) provided an important insight for economic development in Iraq, in which he highlights the centrality of institutional capacity of the state and the role of human capabilities in the development process.

According to Buckley (2006:141-142), the estimated Iraqi sovereign debt comprised the following:
- US $60 billion to Arab countries, primarily Kuwait and Saudi Arabia.
- US $7 billion to Japan.
- US $6 billion to Russia.
- US $5 billion to France.
- US $4.5 billion to Germany.
- US $3.5 billion to the United States.
- US $2.5 billion to Italy.

One of the major consequences of civil war is that it rechanneled economic resources from productive activities into destructive activities. Thus, the society would lose twice; it lost economic resources, while criminal and lawless behavior flourished as a result of collapsed order. For a detailed discussion, see Hoeffler and Reynal-Querol (2003).

References


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