

MEASURING THE SIZE OF THE INFORMAL ECONOMY IN IRAQ (1990–2017)

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ABSTRACT

The research aims to study and analyze the environment of the informal economy in Iraq and clarify its dimensions, justify its worsening and measure the size of the informal economy to arrive to propose treatments and policies with a view to addressing the problem of the interlocking between this economy and the formal economy to know the true size of each.

The research adopts the quantitative approach to measure its size of informal economy in Iraq for the period 1990-2017 for the purpose of monitoring the size of this phenomenon according to the fixed ratios method that assumes that the cash ratio of currencies to demand deposits can be fixed If the informal economy did not exist. 2009 would be chosen as the base year (Golden Period) as it had the lowest percentage of the informal economy.

The size of the informal economy was measured in absolute value as well as a proportion of gross domestic product with economic analysis of these ratios over two time periods, the 1990s, on the one hand, and the period from 2000-2017, on the other hand. The results of the research showed that the informal economy constitutes a major challenge for the Iraqi economy and a set of treatments has been proposed to ensure the sustainable development in Iraq.

Keywords: Macroeconomics, Labor Market, Political Economy

INTRODUCTION

The informal economy is an economic, social and political phenomenon. Its importance increases through what represents its size as a percentage of the gross domestic product. In 2015, this percentage reached about 33.7% in (145) countries in the world.

The research deals with the phenomenon of the informal economy, which is expressed in a group of legitimate and productive economic activities that are not included in the system of national accounts because they are not recorded, therefore the informal sector is not subject to the tax system nor government control to fulfill its entitlements towards the state, despite the fact that manufactured goods and services provided under this economy are not prohibited from circulation. The lack of knowledge of the size of the informal economy results in problems represented in the distortion of official statistics taken as a basis for planning (such as national output, unemployment, inflation, tax revenues, and average per capita income) which leads to the formulation of inappropriate economic policies for the sustainability of development in Iraq.

This phenomenon represents a fundamental challenge to Iraqi economy as well because of its impact on several economic and social variables. The research problem lies in the fact that the informal economy constitutes a high proportion of the GDP in Iraq due to crises, wars and economic sanctions that Iraq faced for the period (1990 – 2017). These events led to distortions in infrastructure and macroeconomic variables, dumping and economic exposure, the cessation of many economic projects, the weakness of state institutions and regulatory agencies after 2003. In light of the challenges of the open global economic environment, enhancing the competitiveness of Iraq becomes necessary to achieve the goals of sustainable development, but the biggest challenge is the evolution of the size of the unregistered informal economy that impedes the development of effective development plans based on comprehensive economic and social data.

The research aims to clarify the concept of the informal economy and to investigate the causes of its emergence and growth in Iraq and measure its size in relation to the gross domestic product to arrive at proposed treatments and policies to address this phenomenon in Iraq in order to integrate the informal sector into the formal sector to enhance state revenues and to improve the standard of living of workers and ensure the achievement of the most important sustainable development goals through the eradication of poverty.

LITERATURE REVIEW

There are many studies that dealt with the issue of the informal economy, including the study of (Schneider & Enste, 2000; Brambila & Cazzavillan, 2009). Despite the differences between them in terms of application, methodological, spatial and temporal scope, and these studies have reached one conclusion, which is that the size of the informal economy represents a large proportion of the gross domestic product. One of the most important findings of the study of (Thinh Hung Ly & Duc Hong Vo, 2014) is that there is a relationship between the causes and the size of the informal economy, and the study also found that reducing the unemployment rate is not sufficient to ensure a reduction in the size of the informal economy, but rather to take sound economic policies in order to reduce the size of the informal economy or benefit from its legitimate activities in achieving economic growth. Another study of (Zahra & Asra, 2015) found that high unemployment rate increases the motivation to work in informal activities. But it did not take into consideration the effect of the economic recession in raising unemployment rates. The study of (Mohamed Zaalani, 2011) concluded that the reason for the growth of the parallel economy in Algeria is due to the hasty opening of the Algerian economy.

On the other hand, studies dealing with the informal economy in Iraq as (Abdul-Jabbar Muhammad: 2005) concluded that the percentage of the informal economy increased after 2003 due to the deterioration of the security and political conditions and the opening of the borders. The study of (Shihab & Sheikhan, 2013) assumed that the size of the informal economy was characterized by fluctuation for the period (1991 – 2011) due to the fluctuation in the speed of money circulation, especially in periods of crisis.

Conceptual Framework

The Informal Economy Definition

The informal economy is part of a broader phenomenon called the term (shadow economy), as it includes two types of activities, the first of which is legitimate productive activities and is called the Informal Economy, and the second, illegal activities and is called the Hidden Economy or Black Economy. The Hidden economy is expressing all aspects of activity that are practiced in secret in contravention of law, customs and ethics with the intention of achieving a private benefit even if this leads to damages to the public interest such as drug and arms trade (Hassanein, 1995).

Guttmann (1997) has defined the informal economy as the part of gross national product that does not fall into national accounts and includes undeclared production in many sectors (agriculture, industry, internal trade, transportation and building, etc). Mirus and others indicated that it is the economy that includes all activities that generate income that is hidden from the tax authorities (Mirus et al., 1994).

The International Monetary Fund has defined the informal economy as the private enterprises that generate unreported income and the wages, salaries, and assets that individuals obtain from unregistered businesses, and all activities that individuals undertake on their own and with the help of others (Frederick & Dominic, 2002). In sum, based on the definitions above, the informal economy refers to all activities that do not fall within the accounts of the national product.

The Reasons for the Growth of the Informal Economy in Iraq

The following are the most prominent economic, social and political changes that have exacerbated the phenomenon of the informal economy

Slowdown of GDP Growth

The growth in real GDP reflects economic efficiency, development of the standard of living, and a measure of economic well – being. In 1995, after the signing of the oil – for – Food Memorandum between Iraq and the United Nations, the real GDP growth rate continued to rise until it reached (84%) in 2002, which decreased to (23%) due to the American occupation of Iraq in 2003 (Iraqi Central Bank: Separate years). Until 2009, as a result of the increase in oil exports and the relative stability of the security situation, real GDP has been increasing at an annual growth rate (1.59%). In 2014, as a result of lower oil revenues due to lower oil prices, real GDP recorded a negative growth rate of (- 4.02%).

The local revenues expanded the relative importance of the service and distribution sectors at the expense of the commodity sectors, as the agricultural sector's contribution to the GDP recorded low rates, which reached at best (6.5%). Also, we find that the industrial sector's contribution did not exceed 1.5% (Iraqi Central Bank: Separate years), This is due to the stoppage of government factories or their obsolescence, in addition to the destruction of a large number of them due to the military operations. Oil productivity constitutes 60% of the gross domestic product at current prices (Central Bank: separate years). This confirms the existence of a structural imbalance, as the growth of the services, oil and mining sectors is higher than the growth in the distribution sectors and the rest of the commodity sector components of the agricultural and industrial sectors.

This sectorial distortion was sufficient to create cash or additional incomes that the internal production system could not keep pace with its needs due to lack of production capacity, lack of investments, or weak production base, which creates the appropriate climate for the growth of inflationary pressures, and this in turn leads to the erosion of the purchasing power of the national currency, which leads to increased costs Living, which pushes the low-income, but also the middle-income group, to search for additional work informally, which is the main reason for the emergence of the informal economy in Iraq.

High Inflation Rates

Iraq witnessed high levels of inflation during the economic sanctions, as this was offset by an increase in the amount of money at an annual rate of (139%), and the inflation rate rose to (221%), which generated a serious imbalance as a result of the gap that widened between the amount of money and the size of the real GDP, because of the existence of purchasing power that is not matched by local commodity production, this surplus demand pushed prices up. Inflation exacerbated as a result of the government's resort to printing money at high rates to cover its budget deficit (Al-Rabei, 2006).

During the economic sanctions the inflation rate in 1994 reached (448.5%) after it was (53.7%) in 1990. After the implementation of the Oil – for – Food Memorandum, the rate of inflation decreased significantly in 1996 by (-16%) compared to 1995 (Alois, 1998).

After the year 2003, the shift in the demand structure as a result of noticeable increase in wages and salaries of employees and pensions, the period (2003 – 2007) witnessed an increase in the inflation rate that was (33.6%) in 2003 and reached (53%) in 2006 (Shendi, 2-6). Perhaps the main reason for this increase in the general level of prices is due to the fuel crisis that occurred during this period, which led to an increase in its commercial price as a result of the increase in the prices of oil derivatives, which contributed to raising the basket prices of the general level of consumer prices (inflation), and this led to a decrease in average income The real individual who in turn led to the emergence of the informal economy inside the country

because the weight that was placed on the citizen led him and with the aim of increasing his income to work in other businesses. The inflation rate began to decrease significantly as of 2008 and reached (1.9%). In 2013 as a result of the deflationary monetary policy and the Central Bank maintaining foreign reserves. In 2014, the inflation rate reached (1.6%) and continued to decrease until it reached (0.2%) in 2016 (Iraqi Central Bank: Separate years).

High Unemployment Rates

Unemployment is one of the most serious problems facing Iraq because of its negative effects politically, socially and economically, especially for young people. After the imposition of economic sanctions on Iraq in 1990, unemployment included most of the economically active population. In 1997, the unemployment rate reached (17.6%) as a result of the demobilization of a large numbers of the armed forces and the reluctance of reconstruction programs and the inability of the previous regime to provide the necessary financing for them or to establish new projects in light of the economic blockade imposed at the time, which led to the failure to provide new job opportunities, which prompted a large proportion of the workforce to move towards marginal work in the light of the informal economy. As for the period (1997-2003), there are no actual statistics or data, whether official or unofficial, on the extent of unemployment in Iraq, due to the authority at that time blocking information on the unemployment problem (Al-Mashhadani, 2006). In the year 2003, the unemployment rate increased to reach (28, 1%) due to layoffs of a large number of employees of state agencies and their media, military and security institutions. In the years that followed 2003, the unemployment rate began to decline to reach (18%) in 2006 and (11.7%) in 2007 due to the tendency of many unemployed to work in the armed forces and security services due to the deteriorating security conditions in the country. On the other hand, the decline in the financial and tax resources of the state has a significant role in paralyzing its ability to set up projects in order to absorb the surplus labor supply. (Ministry of Planning: 2010).

The conclusion from this that the structural imbalance in the labor market between the supply and demand of manpower is the weakness of the national economy's ability to absorb the labor component, which leads to the entry of increasing numbers of individuals into sectors and activities of the informal economy as a way to meet the burdens of living, so high unemployment rates It was and still is the main driver towards undertaking this kind of activities.

Child Labor

Child labor (ages 6-14 years) is a form of the informal economy. The spread of this phenomenon varies among the governorates and regions according to the economic and cultural development and poverty rates therein. In the year 2000, a joint study between UNESCO and Central Bureau of Statistics found that more than (10%) of child labor was working during the study. In 2003, the UNESCO report on education in Iraq indicated that the proportion of children who reached the final stage of primary school constituted (45%) of the pupils who were enrolled in the first stage of primary school, (28%) quit school permanently, and the remained proportion represented pupils stumbled into study (Hosni, 2007). According to the results of a survey conducted by the Central Bureau of Statistics (2006-2007), which included (1997) participants whose ages ranged between (6-14) years, (83%) work per monthly with their families without wages, (24.5%) work temporarily for wage, and that (91.2%) work in agriculture without wages (table 1) (Central Statistical Organization, 2006).

This does not neglect the phenomenon of street children, which has increased in the country recently, and despite the seriousness of this phenomenon, there are no controlled statistics regarding them. The Iraqi Association for Development (which is one of the civil society organizations) has estimated In 2004, through its survey of the number of children in 26 districts in Baghdad, the number of street children increased by (4000) Iraqi children, and it is

certain that this number increased due to acts of violence, bombing and displacement (UNDP: 2008).

Technology Gap

Business enterprises in Iraq, especially in the private sector, suffer from a technological gap, high production costs due to high inflation rates compared to the trade partner countries of Iraq, and the low Iraqi dinar exchange rate against the dollar. These influencing factors and other have resulted in an increase in the average cost of production in enterprises, which means a decrease in the competitiveness of local products compared to similar imported products. Consequently, many of the owners of projects were forced to close their projects and exit the market and that a large segment of those who were working in these projects went to activities with limited capital and small production capacities, most of which fall within the framework of the informal economy (Duhok College, 2008).

Low level of Education and Training

The deterioration of the skill level, acquired technical competence, and educational level has led a large number of people to work in the informal economy, which does not require a high degree of education and training. Moreover, the instability of the political and security environment forced individuals to do business that only met their basic needs with the least amount of money.

Activity and nature of work	Paid work%	Employer%	Works for himself %	Unpaid work
Agriculture and hunting	4.1	0.8	3.8	12.2
Fishing	44.1	7.9	35.9	12
Transformative Industries	60	9.5	0	30.6
Constructions	76.1	0	21.1	11.6
Wholesale and retail trade	32.5	3.9	23.8	39.8
Hotels and restaurants	64.5	0	0	35.5
Transportation, storage and transportation	58.1	0	33.8	8.1
Public administration, defense and social security	40.1	0	46.8	13.2
Other social and personal service activities	85.9	0	11.2	3
Permanent	10.8	0.5	5.7	82.9
Temporary	24.5	0.5	6.2	68.8
Irregular	15.8	2.4	7	74.7

Source/Central Agency and Information Technology/Survey of Employment and Unemployment in Iraq for the Year 2006-2007.

Methodology : Measuring the Size of the Informal Economy in Iraq

MATERIALS AND METHOD

The size of the informal economy in Iraq is measured by the ratio of currency to demand deposits and this ratio can remain constant when there is no informal economy. Also, this method assumes that there is a past period in which the informal economy is less than the rest of the years and is called the golden period. On this basis, the golden period is chosen and the ratio of currency to demand deposits is measured in it and compared to the ratio for the period being

measured and if it is higher than the golden period ratio, as a result of the increase is due to the presence of the informal economy (Andrews 2005).

In fact, the choice of this method is due to the following reasons

- 1) Informal economy transactions are made using the currency and the wages accrued to workers in it, as well as flows resulting from illegal activities (money laundering, bribery, etc.) are carried out using the currency.
- 2) The difficulty of measuring the size shadow economy in Iraq using other methods that require inaccessible data.

Model Description

The general model for this method can be arrived at in terms of the undeclared income from the gross national income. It is considered an internal variable that is determined within the model. The undeclared income is within the informal economy or the shadow economy, and it is symbolized by (h), while the declared formal economy is symbolized by (f). Let us assume that the symbols of the shadow economy equation are as shown in Table (2) below:

Table 2 SHOWS THE SYMBOLS USED IN THE MODEL	
Declared National Income in the formal economy	Yf
Undeclared Income in the informal economy	Yh
Net Currency in circulation	C
Current Deposits	D
The ratio of currency to demand deposit in the formal economy	Kf
The ratio of currency to demand deposit in the informal economy	Kh
Velocity of income circulation in the informal economy	Vh
Velocity of income circulation in the formal economy	Vf

The following equations will be adopted in the research methodology:

- $C=Cf+Ch$ ----- (1)
- $D=Dh+Df$ ----- (2)
- $Kf=Cf /Df$ ----- (3)
- $Kh=Ch/Dh$ ----- (4)
- $Vf=Yf/(Cf+Df)$ ----- (5)
- $Vh=Yh/(Ch+Dh)$ ----- (6)
- $Z=Vf/Vh$ ----- (7)

(Z) represents the ratio of the velocity of income circulation in the formal economy to the velocity of income circulation in the informal economy.

In order to determine the value of the undeclared income as an indicator of the informal economy, equation (6) must be reformulated in terms of official income variables:

$Yh=1/Z * Yf (kh+1) (C - kf * D)/(kf+1) (kh * D-c)$ ----- (8)

Equation (8) expresses the informal economy in terms of undeclared income as a function of the variables Yf, C, D.

To apply the equation, it must be assumed that:

- a) The currency is the medium of exchange in the informal economy and this means checks are not used in transaction, and therefore. (Ch). (Dh=0=#).
- b) The ratio of currency to demand deposits remains constant over time, with the exception of changes in the informal economy and this means that (kf) remains constant over time.

- c) The value of the resulting income calculated in the currency used in the formal economy is the same as the value produced in the informal economy which means that the velocity of income circulation in both economies is the same.

When taking into account these assumptions, the size of the informal economy according to equation (8) becomes as follows:

$$-Y_h = Y_f * (C - k_f * D) / (k_f + 1) * C \text{ ----- (9)}$$

The year 2009 was chosen as a base year and as a golden period for being the lowest ratio of the informal economy.

Data Sources

A time series has been taken (1990 – 2017) and its most important sources are the Ministry of Planning, the Ministry of Finance, and the Central Bank of Iraq. The required data is:

- National Income.
- Net currency in circulation.
- Current Deposits.
- GDP at current prices

RESULTS

Analysis of Study Results

Through equation (9), the results shown in table (3) have been reached. For the purpose of analyzing the size of informal economy and its ratio to gross domestic product in Iraq, the table (3) was divided into two time periods, namely the decade of the nineties and the period 2000- 2017 as shown in the below.

Decade of Nineties

In 1990 and 1991, the invasion of Kuwait and the second Gulf War led to the destruction of infrastructure, a comprehensive economic embargo in accordance with UN Security Council resolutions, and a decline in the commodity supply, especially food imported to Iraq. The decline in oil revenues as a result of the sanctions imposed on its export and the inability of various economic sectors to meet domestic demand has forced the government to resort to printing currency (Deficit Financing).

The deterioration of the production sectors and the local product, the deterioration of the formal labor market and the leakage of skilled workforce towards marginal jobs, the increase in poverty as a result of sharp price increases due to the decrease in the value of local currency, and the expansion of the phenomenon of work outside or during official working times. These negative influencing factors and other factors has increased the scope, size and proportion of the informal economy.

According to Table (3), the size of the informal economy was (1595.58) million dinars in 1990 and constituted (28%) of the GDP, while it reached (2056129.91) million dinars in 1996 and constituted (31%) of GDP due to the signing of the Oil-for-Food memorandum between Iraq and the United Nations in 1996. The size of the informal economy continued to increase, but its share of the GDP declined as a result of the signing of that memorandum.

The Period (2000 – 2017)

The size of the informal economy reached (10683231) million dinars in the year 2003 and it constituted (36.1%) of the GDP. The high rate of the informal economy is due to the second Gulf War, which resulted in the American occupation of Iraq in 2003 and its abolition of a number of state security and media institutions and this led to the loss of up to (400) thousand employees in those institutions for their jobs and their transition to work in the informal economy, whether illegally (working within terrorist and armed groups, smuggling, money laundering, etc.) or legally (small informal projects, street vendors, etc.). In the year 2005, the size of the informal economy increased to reach (1778641816) million dinars (24.1%) of the GDP, but its ratio to GDP was declined for the period (2006 – 2009), reaching (10.7%) in 2009. It is important to point out here that this decline in the proportion of the informal economy was not a decrease in its size but rather because of the increase in GDP growth as a result of high oil production and relative stability in the security situation.

The years	Informal economy (Million dinars)	The ratio of the informal economy to GDP at current prices
1990	15915.58	28%
1991	12629.5	29%
1992	29534.37	25%
1993	71842.3	22%
1994	451831.86	27%
1995	1950199.15	29%
1996	2056129.91	31%
1997	4507454.97	29%
1998	5085370.38	29.60%
1999	10080782.25	29.20%
2000	14750211.33	29.30%
2001	10779281.69	26%
2002	10899077.97	26.50%
2003	10683231	36.10%
2004	8150085.38	15%
2005	17786418.16	24.10%
2006	15186632.72	15.80%
2007	10979665.27	9.80%
2008	16353897.46	10.40%
2009	14949961.13	10.70%
2010	43842075	27.05
2011	51279852	23.59
2012	59656003	2.34
2013	73788400	26.97
2014	73240000	27.49
2015	61160000	30.62
2016	82598759	40.51
2017	96029591	42.49

Source: Data of the variables of the Informal Economy Size Measurement Model from the Central Bank, the General Directorate of Statistics and Research, the Internal Statistics Department, the Central Bank's statistical groups (sporadic) * Results of applying equation (9) to calculate the size of the informal economy.

The rise and the fall in the size of the informal economy was due to the fluctuating velocity of money associated with the marginal propensity to save, especially in periods of

crisis (first and second Gulf War and international sanctions) in addition to the weakening of individuals confidence in the value of the dinar as a store of value.

As shown in table (3), the proportion of the informal economy for the period (2010 – 2017) took an upward trend, except for 2012, and reached (30 %) in 2015 and increased to (40.5 %) and (42.5 %) in the next two years. Economic instability, economic stagnation due to low global oil prices, political instability, as well as liberalization of the economy in an uncontrolled manner by the government led to a gap that helped widen the size of informal economy’

On the other hand, the expansion that occurred in the services sector resulted in the generation of cash incomes without the availability of a flexible production system to meet the increasing needs and led to high inflation cost of living. The allocation of oil revenues by the government mainly to cover operating expenses (salaries and wages), and at the expense of investment expenditures, has thus led to the emergence of new consumption patterns that have added additional pressure on the market and negative impacts on real income for individuals.

In terms of fiscal policy, the amount of what has been allocated to operational spending from public spending is four times greater than what was allocated for investment spending. As for monetary policy, the measures taken by the Central Bank of Iraq to address inflation have led to the absorption of excess cash liquidity due to a contractionary policy to raise the value of the dinar against the dollar, raise the interest rate in relation to deposits and lending. As a result, these influencing factors pushed the limited and middle – income groups to search for additional jobs in the informal economy, and therefore, the size of that economy expanded significantly in Iraq after 2003.

CONCLUSION AND RECOMMENDATIONS

Conclusions

1. During the study period, the informal economy’s percentage of GDP was characterized by fluctuation, as it was (30 %) in the 1900s, (20 %) in the period 2000 – 2009, (30 %) in 2015, and to (40,5 %) and (42,5 %) in the following two years. This indicated that Iraq did not adopt any policy during the study period to reduce the informal economy.
2. Lack of interest by the state to address the problem of the informal economy, especially with regard to issuing legislation and laws necessary to regulate, protect and support small projects.
3. The structural imbalance of the GDP represented by the growth of the distribution and services sectors and the decrease in the growth rates of the commodity production sectors.
4. The weak capacity of the national economy to absorb the workforce as a result of corruption and deteriorating security conditions leading to the entry of increasing numbers of individuals into the informal economy.

Recommendations: Proposed treatments

1. Supporting the private sector and providing a suitable environment for foreign investment.
2. Legislation and improvement of labor laws in a manner that reduce the cost of obtaining employment and corruption due the ambiguity and complexities of those laws.
3. Reforming the tax system in a way that encourages informal economy projects to enter the formal economy.
4. Reforming government institutions that suffer from excessive bureaucracy and enhancing their capabilities so that labor laws and regulations are managed and applied efficiently.
5. Taking strict and effective measures by the government to reduce the phenomenon of child labor.
6. Interest in empowering women, as they represent about two thirds of the workforce in Iraq.
7. Expanding the establishment of project incubator to spread the culture of self – employment, developing the capabilities of youth and craftsmen to manage projects, facilitating the start – up of projects, creating a database on the needs of the private sector and those wishing to work and their qualifications, and providing technical, administrative and marketing advice to projects.
8. The government provides easy loans, tax exemptions, and other facilities in case the project in the informal economy registers legally.

9. Addressing the economic imbalances suffered by the Iraqi economy (inflation, unemployment, etc.), reducing poverty, corruption and security deterioration, and diversifying the Iraqi economy rather than relying mainly on the oil sector.

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