
The Relationship between Economic Growth and Unemployment in Iraq

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Abstract

This paper shed light on the relationship between economic growth and unemployment in Iraq by using Okun's law to determine the potential output. Our results indicate to a decline in Okun's coefficient which consistent with weak job recovery. And the increasing growth rate does not sufficient condition for decreasing unemployment rate in Iraq. The results also show that Iraqi economy still unproductive with idle production capacity and not diversified. Furthermore, the structure of labor market is inflexible and dominated by government and one sector represented by oil sector which is not intensive-labor.

1 Introduction

Unemployment is regarded as a serious problem faced most developed and developing countries and resulting socio-economic problems. the governments have given great attention to create job opportunities and reoperation the idle units to eliminate this phenomenon.

There are several reasons behind this phenomenon, especially in the developing countries , it is attributed to the shortage of the economic growth accompanying with incremental population , inability to mobilize domestic savings in financing desired investments, decline in economic activity due to recession ,changes in technology,changes in consumer demand,non-qualifying employment, which are not commensurate with the changes in labor market. Unemployment usually comes as a result of disequilibrium between demand and supply in the labor market.

Unemployment refers to the stoppage a part of the labor force in the economy in spite of the existence of the desire and ability to work and production. It is measured by a rate called unemployment rate which represents the difference between production factors (the amount of human resources) and markets (available amount of job opportunities).

The current economic growth has seriously challenged a bedrock assumption in economics. It is a widely accepted view that the growth rate of GDP directly affects employment. If it rises, then employment will rise and the unemployment rate will fall. Many studies confirm the existence of a trade-off between economic growth and change rates of unemployment prevailing in the economy.

The theoretical analysis of unemployment may loose its importance if it does not take into account the causal relationship in real world and also economic

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policy which does not aim at declining unemployment rates but increasing growth rates.

The aim of the paper is to apply Okun's law in Iraq in order to verify of its validity (knowing the degree of responsiveness of unemployment to changes in GDP) and to estimate the potential output.

The general hypothesis adopted in this paper states that: if the Okun's coefficient for the economy has weakened, it will explain the jobless recovery.

The paper's plan is divided as follows: section 2 deals with a simplified theoretical framework. Section 3 offers the reality of unemployment in Iraq. Section 4 devotes to the empirical results and their interpretation. The paper ended with some conclusions and recommendations.

I Theoretical Framework: Unemployment and Growth

The simple, but wrong argument is: there can be no negative relationship between economic growth and unemployment, because GDP and unemployment are both rising in the long-run . It is evident that unemployment will only increase if the GDP is rising faster than productivity. In the EU, during nineties a GDP growth rate of 1.8 percent was necessary to keep employment constant and, as labor supply increased, a rate of 2.3 percent was necessary to keep unemployment constant at existing market regimes.¹

There is obviously a strong negative linear correlation between real output growth and the change in the unemployment rates.

There is an ambiguity in distinguishing between the increases in output that caused by higher capacity utilization and those are due to long-run growth. The reforms of labor market that aim to decrease wages and increase employment also causes increase in output. The output is increase will be strengthening with a lag by increases in the capital stock, because investment will be more profitable when the return to capital increases. This situation leads to increase in labor productivity and to further increases in labor demand. The adjustment process will continue until the return to capital resorts to its original level. The increase in the capital stock means that labor-market reform will reduce real wages much less (or not at all) in the long-run than in the short-run. There are several aspects of the relationship between long-run growth and unemployment.

1.Exogenous changes of the rate of growth can affect unemployment.

2.Exogenous changes of the type of growth can affect unemployment.

¹ E.Walterskirchen, "The Relationship between Growth, Employment and unemployment in the EU", Workshop in Barcelona, 16-18 September 1999, p7.

3. changes in labor-market institutions can affect the growth rate indirectly via changes in unemployment and affect both unemployment and growth directly, but through different mechanisms.

Assume that productivity growth happens throughout the economy; this will lead to what we call *capitalization effect*, where by an increase in growth raises the capitalized returns from creating jobs and consequently reduces the equilibrium rate of unemployment. The opposite effects if the productivity growth is associated with so called *creative destruction*. In this case, the old vintages become unprofitable and are taken out of production. So there will be more job destruction and then raise unemployment (unemployment arises in consequence of *innovation*).²

It is widely known that technological progress leads to shift demand for labor from low- skill to high-skill labor (skill based technological change) which strength the incentives for higher education and gradually cause the supply of high –skilled labor to increase, and creates wage differentials. This can be seen as a race between technological change and increasing supply of high-skilled labor from the education system. Then technological change could lead to higher unemployment for the low- skilled.

The evidence supports the view that unemployment also increased for groups of relatively high-skilled as in some European countries. This situation needs consistency between outputs of the education system to keep up with technological change.

Another attempt to analyze the effect of growth on unemployment may be found in the analysis of “*structural change*”. Within this analysis the unemployment is regarded as the normal consequence of a growth process, and as a result of interaction between technological change and the situation of individual demand. The demand side of the problem comes thus to play its relevant part in connection with technological change, in an analyst concerning long-run unemployment effect on growth.

Unemployment could reduce long-run growth on one hand. On the other hand, labor market reform that reduces unemployment would also leads to higher growth. We can show, in a simplified way, the mechanism between employment and income as follows:

↑employment (means capital stock combined with more labor)→↑aggregate income→↑savings.

↑income + ↑savings rate →↑capital accumulation →↑growth→↑employment (among low-skilled workers) →↑investment in human capital→↑human capital

² P.Aghion and P. Hewitt, “Growth and Unemployment”, Review of Economic Studies, 1994(VOI.61 Issue3), pp: 477-494.

accumulation (learning by doing)→↓average time spent in education system before students enter the labor-force. The objection against the argument that higher employment leads to higher growth via effects on the domestic savings is that it neglects open economy aspects: with free capital mobility, capital accumulation does not depend on domestic savings.³

In Labor-Force, Jobs and Unemployment in Iraq

Population in working –age represents the potential capacity in the society and available labor-force in an economy. Number of them might be leaking outside jobs because of voluntary and involuntary unemployment. The statistics show that the population growth rate was 3 per cent during the period 1977-1997 while the proportion of labor-force growth reached to 2.7 per cent. That due to demographical, economical and social factors, including the nature of the age structure of the Iraqi population which tends to the category of the non-adult (less than 14 years) and the expansion of education as well as the low rate of female participation in economic activity.

The population growth rate reached to 3 per cent in 2008 which due to the change in population age structure in favor of the category of people in working-age which reached to 58 per cent. That means more supply of labor-force will enter the labor-market amounted to 1331970 workers which is beyond the capabilities of the Iraqi economy under the productivity, financial and institutional restrictions, and the imbalances in distribution of the labor-force depending on activities and economic sectors.

The total number of the people in labor-force in Iraq is amounted to 5072811 person in 2002 increased to 7664177 person in 2007. The employment ratio was 19.3 per cent in public sector decreased to 14.7 per cent in 2002 and 2007, respectively. While the private sector accounted for the largest proportion which increased from 70.7 per cent to 85.3 per cent in the same period.

It should be noted that the urbanization has a negative reflections on the nature of the directions of employment in Iraq after 2003, where the proportion of workers in the non commodity activities increased from 59 per cent to 82 per cent in 2006 and 2008, respectively, which reflects the inability of the manufacturing sector to absorb the increase in the labor-force, where the proportion of workers formed 5.9 per cent in 2006 increased to 13.7 per cent in 2008, showing the negative impact of the high degree of urbanization and emphasizes that the labor –force transition from the countryside to the city was

³ Lars, Calmfors and Bertil Hornlund, “Unemployment and Economic Growth”, a partial survey (Swedish Economic Policy Review 7(2000), pp: 107-153.

not caused by manufacturing but because of the expulsion factors from the countryside.⁴

The structure of employee according to the social type shows that the low proportion of female participation in economic activity which estimated 9.4 per cent and 11.31 per cent in 2003 and 2008, respectively. This proportion reflects the fact that the participation of female in economic activity affected by many obstacles such as institutional, cultural, economical and legality.

Unemployment and its high rates were not prominent during 1980s and 1990s in the previous century because of the circumstances of the military mobilization for war which included most of the economically active population, and did not exceed 5 per cent, but after 2003 increased rapidly and reached to 28 per cent according to the job and unemployment survey in 2003, then decreases to 18 and 15 per cent in 2006 and 2008, respectively. The reasons of low unemployment rate due to the accommodations of the civil government sector to a large percentage of the unemployed in addition to what has been accommodated previously by the forces involved in the maintenance of security and due to the emerging marginal sectors that did not exist before 2003.

The data also show that the unemployment rate among males was higher and reached to 30.2 per cent and declined to 14.3 per cent in 2003 and 2008, respectively. While the unemployment rate among female increased from 16 per cent to 19.6 per cent in 2003 and 2008, respectively. The unemployment rate among the youth category in age (15-24 years) constituted 30 per cent from the workers and the unemployment among male in this category was 30 per cent and 32 per cent for female, according to the survey in 2008.

The difference seems more clearly when we compare between urban and rural areas since the unemployment rate has decreased in urban areas from 30 to 16 per cent in 2003 and 2008, respectively, while this percentage decreased in rural areas from 25 per cent to 13 per cent in the same period. These ratios confirm that the unemployment taken a path towards a location in a specific geographical areas due to the security situation, fail of the rebuild projects in generating a new job opportunities, declining the allocations of investment spending from the total expenditure, absent of the foreign direct investment, and ineffectiveness of the grants and foreign loans in generate job opportunities in Iraq.

From the view point of the effective employment policy that considers what is happening as distortions in the employment process and what is needed is to reconsider the economic structure to achieve actual employment rates.

⁴ Republic of Iraq, Ministry of Planning and Development Cooperation, National Development Plan for (2010-2014), 34-35.

From the aspect of the population quality in working age , this should be also attend to as 24 per cent of the contributors in this category are illiterates, 41.2 per cent read, read and write and 43.1 per cent holders of primary certificate, undoubtedly refers to low employment efficiency.⁵

IV Gross Domestic Product (GDP) in Iraq

The Iraqi GDP grew from 29711.1 million I.D in 1990 to 40344.9 million I.D in 2002 at constant prices(1988=100),i.e., at a compound annual growth rate of 2.5 per cent and reached to 26990.4 and 53523.6 in 2003 million I.D in 2003 and 2008, respectively. The growth rate amounted to 6.3 per cent reflecting high inflationary pressure.

Table 1: Growth Rate of Gross Domestic Product in Iraq for (1990 -2008).

Year	1990	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP	6.4	13	15	-5.7	-3	-21.8	52.3	-3	3.1	1.0	6.3

Source: CIA World Fact Book, Iraq, March 11.*The Economist Intelligence Unit.

The table above shows that the drop in GDP in 2001 was largely the result of the global economic slowdown and lower oil prices. The high percentage of gain estimated for GDP in 2004 is the result of starting from a low base; looting, insurgent attacks, and sabotage following the US led coalition in March- April 2003.

According to the 2008, Iraq's per capita appears to have returned to the 1980 level, the apex of Iraq's economic strength in the region.⁶

Contribution of the public sector in the GDP was 66.4 per cent in 2004, increasing to 69.2 per cent in 2008 as a result of the dominance of GDP of crude oil which is fully state-owned sector. The crude oil contribution in GDP was 44.3 per cent, as an average for the period after 2003. The results are strict control over the market movement and the majority of economic indices by government production and expenditure policies in addition to global oil prices; leading to a weaker role contribution of the private sector and the market mechanism in the market recovery. This condition keeps the productive sectors of value added and which drive the production and market in constant recession, and keeps the society in an economic illusion where it appears prosperous while in fact ineffective and unproductive.⁷

⁵ Republic of Iraq, Ministry of Planning and Development Cooperation, Technical Committee, Indicators Analysis, May, 2009, 25.

⁶ Joelle, Hong, The War on Terror: Iraq GDP and Unemployment, January 26, 2010.

⁷ Republic of Iraq, Ministry of Planning and Development Cooperation, Technical Committee, Indicators Analysis, May, 2009, 25.

v Application of Okun's Law in Iraq

The real gross domestic product in Iraq grew at an average annual rate of 6.8 percent during the period (1990-2008). As expected, unemployment during this period decreased. But over the last year of the period under consideration (2008) average growth rate reached to 6.2 percent while unemployment rate reached to 15.3 percent. This situation gives a pessimistic view for policy makers and economists, who expected the economy growth rate to increase as unemployment decreased.⁸

Okun's postulated that there is only a weak (negative) relationship between growth and the reduction of unemployment. He postulated that 1 percent increase in the growth rate above the trend rate of growth (or growth in potential output) would lead only to 0.3 percent in the reduction of unemployment. The relationship varies depending on the country and time period under consideration.

One important consequence of Okun's law is that actual GDP must grow as rapidly as potential GDP just to keep the unemployment rate from rising. In a sense, GDP has to keep running just to keep unemployment in the same place. Moreover, if you want to bring the unemployment rate down, actual GDP must be growing faster than potential GDP.

Okun's law provides the vital link between the output market and the labor market. It describes the relationship between short-run movements in real GDP and changes in unemployment.⁹

There are several reasons why GDP may increase or decrease more rapidly than unemployment decrease or increase. As unemployment increase, 1. A reduction in the multiplier effect created by the circulation of money from employees. 2. Unemployment persons may drop out of the labor-force (stop seeking work), after which they are no longer counted in unemployment statistics. 3. Employed workers may work shorter hours. 4. Labor productivity may decrease, perhaps because employers retain more workers than they need. One implication of Okun's law is that an increase in labor productivity or an increase in the size of the labor-force can mean that net output grows without net unemployment rates falling, the phenomenon of "*jobless recovery*".

The paper adopted the *gap version* which connected the level of unemployment to the gap between potential output and actual output. In potential output, Okun sought to identify how much the economy would produce "under conditions of full employment" a situation in which all available labor

⁸ Ibid, 22.

⁹ Paul A. Samuelson and W. D. Nordhaus, *Macroeconomics*, 17th ed. McGraw-Hill, New York, 2001, 324.

resources are being used in the most economically efficient way. In full employment, Okun considered what he believed to be an unemployment level low enough to produce as much as possible without generating too much inflationary pressure.

A high rate of unemployment would be associated with idle resources. In such circumstance, one expects that actual rate of output to be below its potential. A very low rate of unemployment would be associated with the reverse scenario. Thus the gap version of Okun's law, took the form:¹⁰

$$\text{Unemployment rate} = a + b (\text{Gap between potential output and actual output})$$

Where: a = unemployment rate associated with full employment.

b = Okun's coefficient.

Assumptions: the gap between potential output and actual output in Iraqi's economy increases by 2.5 percentage points for each percentage point the unemployment rate increases, that is,

$$(Y^* - Y) / Y^* = 2.5 (U - U^*)$$

Where: Y^* = potential output

Y = actual output in 2008 is 53.5 billion I.D.

U = actual unemployment rate in 2008 is 15.3%

U^* = natural unemployment rate is 7%.

By adopting the assumptions above we can estimate the gap as follows:

$$\text{Gap} = 2.5 (15.3 - 7) = 20.75\%$$

Then we can calculate the potential output as follows:

$$(Y^* - 53.5) / Y^* = 20.75 \rightarrow Y^* = 67.7 \text{ billion I.D.}$$

This result means that potential GDP increased actual GDP by 12.2 billion I.D., and also exposes that the resources are idle and the economy is inefficient and unproductive.

To simulate this model we used two levels of unemployment rates estimated by CSIO (holding constant Y and Okun's coefficient) the result were as follow:

First: if $U = 28\%$ (as estimated in 2003) $\rightarrow Y^* = 100.9$ billion I.D.

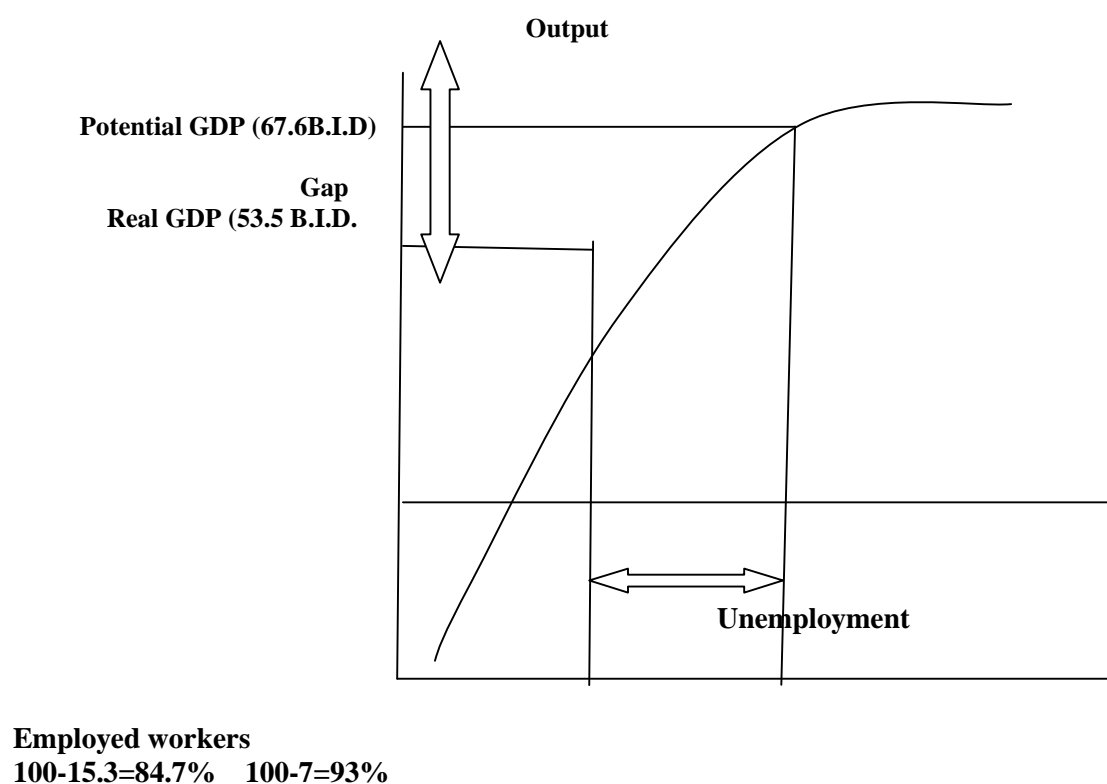
Second: if $U = 18\%$ (as estimated in 2006) $\rightarrow Y^* = 73.8$ billion I.D.

The approach of production function used to combines labor, capital, and technology to produce output- with gap-based version of Okun's law. Doing so allows economists to assess all of the economy's idle resources. But this approach has drawbacks, since measuring inputs such as capital and technology is a difficult and imprecise task. In addition, it is impossible in Iraq to determine the shares of labor and capital in income. So we used the shape of production

¹⁰ Edward S. Knotek, How Useful is Okun's law? *Economic Review*, Federal Reserve Bank of Kansas City, Fourth Quarter, 2007, 73-103. This article is available at www.KansasCityFed.org.

function to show the gap¹¹ between potential GDP and actual GDP by using Okun's law as it illustrated in figure (1).

Figure (1): The Gap between Potential GDP and Actual GDP.



¹¹ GDP gap means the forfeited output of a country's economy resulting from the failure to create sufficient jobs for all those willing to work.

VI Conclusion

1. The nature of unemployment in Iraq was not cyclical , but rather behavioral(during 1970's), structural appears at the end of 1980's after the end of Iraq-Iran war and dismissed a large numbers of military forces that Iraqi's economy was not able to absorb them once, disguised and compulsory during 1990's associated with economic blocked imposed on Iraq and leads to stoppage, deterioration of most sectors, especially oil sector , agriculture, and public services sectors, and imported unemployment after 2003 where the Iraqi economy was opened in front of all kinds of imports without any restrictions which lead to deterioration of the handicraft activities.
2. Only 24 percent of the contributors in working age are illiterates, 41.2percent read, read and write and 43.1 percent holders of primary certificate, undoubtedly refers to low employment efficiency.
3. The empirical side shows a weak relationship between GDP growth and unemployment which may be explained by the structure of labor market is inflexible and dominated by government and one sector represented by oil sector which is not intensive-labor and it has not the ability to create a new job opportunities.
4. The impact of unemployment in Iraq seems to be extremely harmful: the economy is at 12.2 B.I.D below its potential output which means the weak of productive system with idle capacities and inefficient.
5. Without concentrated efforts to boost the private sector, most of the 450,000 new entrants to the labor market will not find secure job.

Suggestions

1. Select suitable development directions in away to absorb and provide suitable job opportunities through privatization. In this respect we can benefit from the Korain experiment where the conditions are putting in the sales contracts which oblige the owners of enterprises to keep the workers in their occupations and don't laying them off.
2. Reconsideration to the educational policies in away to reduce unemployment among graduated students from the institutions and universities and put an acceptance requirement program according to the real needs for each specialization.
3. The necessity of separation between the policies that stimulating growth and those declining unemployment because the first one depends upon public expenditure which hinder the increasing of investment ,in a certain stage, while the second policies beat unemployment by promoting investment that creates job opportunities.

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