

Determinants of Youth Unemployment in Arab Countries

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Abstract:

The research aims to measure the impact of different variables on the youth unemployment rate in the Arab countries. Youth unemployment rates in the Arab countries are the highest in the world, and this requires serious consideration to address it, as it considered a major factor in political instability. The research used the multiple linear regression method and panel data for the period 1990-2019 for ten Arab countries for which the data required for the research were available: Iraq, Algeria, Libya, Sudan, Tunisia, Syria, Jordan, Morocco, Lebanon and Egypt. The analysis included measuring the impact of foreign direct investment FDI, inflation, government spending, population growth, GDP growth, degree of trade openness, and corruption risk index on the youth unemployment rate. It was found that FDI ratio, population growth, and trade openness were negatively affecting youth unemployment rate. While the impact of inflation rate, government spending ratio and corruption risks index (degree of low corruption risk) were positive. No significant effect of economic growth on the youth unemployment rate has been demonstrated in Arab countries.

Keywords: Investment, Inflation, Corruption, population growth rate, Government spending.

محددات بطالة الشباب في الدول العربية

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المستخلص:

يهدف البحث الى قياس تأثير متغيرات مختلفة على معدل بطالة الشباب في الدول العربية. ان معدلات بطالة الشباب في الدول العربية تعد الاعلى عالميا، وذلك يتطلب النظر جديا في معالجتها كونها تعتبر عامل اساسي في عدم الاستقرار السياسي. استخدم البحث اسلوب الانحدار الخطي المتعدد وبيانات بانل للمدة ١٩٩٠-٢٠١٩ لعشرة دول عربية توفرت عنها البيانات المطلوبة للبحث هي العراق، والجزائر، وليبيا، والسودان، وتونس، وسوريا، والأردن، والمغرب، ولبنان، ومصر. شمل التحليل قياس تأثير نسبة الاستثمار الاجنبي المباشر، ومعدل التضخم، ونسبة الانفاق الحكومي، ونمو السكان، ونمو الناتج المحلي الإجمالي، ودرجة الانفتاح التجاري، ومؤشر مخاطر الفساد على معدل بطالة الشباب. وقد توصل الى ان كل من نسبة الاستثمار الاجنبي المباشر، ونمو السكان، والانفتاح التجاري يؤثر سلبيا في معدل بطالة الشباب. في حين كان تأثير كل من معدل التضخم، ونسبة الانفاق الحكومي، ومؤشر مخاطر الفساد (انخفاض مخاطر الفساد) موجبا. ولم يثبت تأثير مهم للنمو الاقتصادي في معدل بطالة الشباب في الدول العربية.
الكلمات المفتاحية: الاستثمار، التضخم، الفساد، معدل نمو السكان، الانفاق الحكومي.

1. Introduction:

Youth unemployment is one of the most important problems facing the governments of Arab countries, and a major obstacle to achieving economic development, welfare and social justice, as well as being the main cause of political instability in the region. The average of youth unemployment rate in the Arab countries was 26% in 2019. This rate is the highest in the world, as the youth unemployment rate was approximately 18% in Latin American countries, 9% in the least developed countries, and 14% in middle-income countries, while the global rate is 13%. In the same year. This comparison reflects the great size of the problem facing the Arab countries and the importance of speeding up its solution.

The first step to the solution is to identify the main drivers of the problem of youth unemployment in the Arab countries, with the aim of following appropriate economic policies to solve it, and this is what the research is trying to address.

Economic theory proposes many variables governing youth unemployment, the most important of which are the rate of economic growth, population growth, the degree of trade openness, the importance of FDI in the economy, the level of corruption, and inflation rates. The key question for the research is: What are the determining factors of the youth unemployment rate in the Arab countries? The answer to this question will enable us to reach conclusions about the most important variables governing the rate of youth unemployment in Arab countries. This work is considered a new addition to knowledge in the field of studies of youth unemployment in Arab countries.

Following this introduction, a discussion of the literature is presented, section 3 explains data. Section 4 displays Data Analysis, section 5 shows the estimation results, finally we conclude in section 6.

2. literature review:

Economic theory diagnoses many of the determinants of youth unemployment in developing countries.

Economists refer to FDI as an important variable that determines unemployment. But their opinion is divided between two trends. The first is that the FDI inflows increase employment. While others, it is believed that FDI inflows do not affect or even increase unemployment. The positive effects of FDI on employment rates would be much higher if it took the

form of a new project (Greenfield). While its impact is small or sometimes negative, if the FDI inflows takes the form of acquisitions of existing companies that have transferred to the private sector (buyouts of privatized enterprises). (Grahovac D. and Softić, S., 2017, 67). On the other hand, FDI may not affect employment or even reduce it when it uses capital-intensive technology. Empirically Zeb et al (2014) results revealed that FDI plays an important role in reducing unemployment. (Mahmood T. et al, 2014) found that FDI has a negative effect on unemployment in Pakistan. A paper presented by Arslan M., and R. Zaman (2014) show that FDI, have a negative impact on unemployment. Kamran A., et al (2014) concluded that FDI is negatively affects unemployment. While according to Chella and Phiri (2017) it appears that FDI did not have much impact on reducing unemployment levels.

Inflation is another variable that determines unemployment, but opinions differ in the way it affects. The increased inflation may reflect a lower level of economic stability and thus a lower level of economic activity, and consequently an increase in unemployment. On the other hand, Phillips believes that there is an inverse relationship between inflation and unemployment, and thus an increase in inflation rates leads to a reduction in unemployment. A higher rate of inflation increases workers' incentives to work and has a negative effect on unemployment. On the other hand, inflation reduces the company's return from job creation, and thus increases unemployment (Liu L., 2008, 3). Empirically Abugamea G. (2018) found that inflation affected unemployment positively in Palestine. (Mohammed M, 2018) found that unemployment rate in Sudan responds positively to the rate of inflation. The study Outcomes of Mirza M., et al (2015) disclose that there is strong, indirect and significant association found between unemployment rate and inflation rate in Pakistan. Aurangzeb and K. Asif (2013) tested, among other variables, the effect of inflation, on unemployment in Pakistan, India, and China, they found that inflation positively affect unemployment. With the exception of China, where the negative impact of inflation on unemployment was found. Eita J. and J. Ashipala (2010) studied the determinants of unemployment in Namibia. They found, a negative relationship between unemployment and inflation. Mahmood T. et al (2014) found that inflation have a negative effect on unemployment in Pakistan. The results shown by Arslan M., and

R. Zaman (2014), confirmed the trade-off between inflation and unemployment.

Government spending affects the level of unemployment, the method of influence varies widely. One view finds that government spending, especially production spending, reduces unemployment (Chu T. et al, 2020, 2404-5). On the other hand, other economists find that increased government spending crowds out the private sector for financing, resources, the market, and the labor force, thus increased government spending leads to an increase in unemployment (Feldmann H., 2009, 316; Behar A. and J. Mok, 2015, 111). Empirically, Mohammed M. (2018) found that real government spending has significantly negative effect on unemployment rate in Sudan.

Population growth leads to increased additions to the labor force, in the event that there are restrictions on expanding productive capacity, this will lead to an increase in unemployment. Other studies have found instead that a larger share of the youth population may reduce unemployment if labour markets are imperfect and there are trading externalities in firms' job posting and workers' search behavior (Biagi F. and C. Lucifora, 2005, 4-5). Empirical studies found positive relation between population growth and unemployment. In their study Aurangzeb and K. Asif (2013) test, among other variables, the effect of population increases on unemployment in Pakistan, India, and China, they found that population growth positively affects unemployment. A study by Arslan M., and R. Zaman (2014) shows that Population growth rate has a positive relationship with unemployment and contributes to unemployment. Kamran A., et al (2014) findings show that population growth positively fuels unemployment.

Assuming that economic growth is Labor-Friendly, economic growth will open new horizons for job creation and reducing unemployment. But if economic growth goes to the advantage of the capitalists and the landlords, then economic growth may not affect or may increase unemployment. Empirically, Abugamea G., (2018) Found that the GDP affected unemployment negatively in Palestine. Arslan M., and R. Zaman (2014) results show that GDP has negative impact on unemployment. Aurangzeb and K. Asif (2013) tested, among other variables, the effect of GDP, on unemployment in Pakistan, India, and China, and found that growth is

positively affect unemployment in Pakistan, While the effect was negative in both India and China.

Economists believe that openness to trade is an important factor in increasing long-run competitiveness and economic growth. Hence the possibilities of providing job opportunities and reducing unemployment. In this sense, international institutions such as the International Monetary Fund and the World Bank recommend the importance of following liberal foreign trade policies for developing countries that suffer from the problem of unemployment. Trade liberalization has a positive effect on high-skilled workers but a negative effect on low-skilled workers. Based on this view, it is concluded that trade liberalization increases unemployment in countries with a large proportion of low-skilled workers. The increase in foreign imports and the reduction of customs duties harm local industries and thus lay off workers. When domestic economic activity declines and unemployment increases in a large scale, the comparative advantage industries and exporters will not be able to absorb the surplus labor (Ozcelebi O., and S. Ozkan, 2017, 20). Empirically, the main finding of Alawin M. (2013) paper is that there is no long-run relationship between the trade balance and unemployment. However, the deficit in the trade balance causes unemployment, and vice versa, in the short-run. This indicates that trade liberalization, in the short-run, is capable of increasing overall productivity in some sectors, and also increasing employment opportunities in Jordan. The results of Dhamija N. (2019) confirm the theoretical views that trade openness in developing countries leads to increased employment of labor. In their study Dutt P. et al (2007) found strong evidence that unemployment and trade openness are negatively related (protection and unemployment are positively correlated).

Corruption is one of the problems that has increased attention in all countries during the past three decades. The effect of corruption on unemployment derived from the effect of corruption on economic growth. In this regard, there are two opinions. The first believes that corruption negatively affects economic growth, and then increases unemployment. The second opinion believes that corruption plays the role of facilitating business in the bad economic environments, and therefore it contributes to facilitating economic activity and increases economic growth, which is reflected positively on the labor market (Meon P. & K. Sekkat, 2005, 71-74).

Empirically, Bouzid B. (2016), found that development of corrupt practices tends to increase the unemployment rate among young people and job seekers. Onchari D. (2019) provide evidence from Kenya that corruption has a long-run impact on unemployment in Kenya, as the long-run increase in the rate of corruption leads to an increase in unemployment rates.

3. Data:

The research aims to estimate the effect of various variables on the rate of youth unemployment in Arab countries. The dependent variable is the youth unemployment rate, while the explanatory variables are, FDI ratio, inflation rate, government spending ratio, the rate of population growth, the rate of economic growth, the degree of economic openness, and the corruption risks index.

The study adopts panel data for the period 1990-2019. The selected Arab countries includes ten countries: Iraq, Algeria, Libya, Sudan, Tunisia, Syria, Jordan, Morocco, Lebanon and Egypt. All the data collected from world bank data (world development indicators 2019), except for corruption which collected from International Country Risk Guide (ICRG) 2019.

4. Data Analysis:

The statistical analysis of the data deals with describing the youth unemployment rates in Arab countries by analyzing the one-way analysis of variance of the youth unemployment rate, then divide the countries into homogeneous groups in terms of the youth unemployment rate using the Duncan test, for the period (1990-2019).

Table (1) presents the most important descriptive measures of youth unemployment data in the Arab countries.

Table (1): Descriptive Measures of Youth Unemployment Rate Data in the Arab Countries for the Period (1990-2019)

Country	N	Mean	Std. Deviation	Minimum	Maximum
IRQ	30	9.563233	1.4705446	7.9650	13.0200
DZA	30	18.218800	7.8891584	9.8200	31.8400
LBY	30	18.867433	.2159129	18.3730	19.1430
TUN	30	15.838133	1.0596393	13.0000	17.4990
SDN	30	15.053367	1.4356700	12.3650	18.3340
SYR	30	8.524367	1.1966644	6.7500	11.6300

Country	N	Mean	Std. Deviation	Minimum	Maximum
JOR	30	14.506867	2.0314394	11.9000	19.7000
MOR	30	11.142200	2.0956264	8.9100	13.9400
LBN	30	7.556433	1.0518043	6.1430	8.9800
EGY	30	10.378400	1.5887854	7.9500	13.1540
Total	300	12.964923	4.7671256	6.1430	31.8400

Table (1) outcomes diagnosed that there is a variation in youth unemployment rates among Arab countries, as we find that Libya is in the first ranks in terms of the highest unemployment rates among youth, at a rate of (18867) unemployed people per million of the total population in the age group 15 - 24 years old, Algeria comes in second place with (182188) unemployed per million of the total population in the age group 15-24 years, then Tunisia ranked third with (158381) unemployed per million of the total population in Age group 15-24 years. While the lowest unemployment rates among youth in Lebanon. On the other hand, Iraq ranked third in terms of the lowest unemployment rates among youth, with a youth unemployment rate of (95,632) unemployed persons for every million of the total population in the age group 15-24 years. In order to test the existence of statistically significant differences between these countries in terms of youth unemployment rates, a one-way analysis of youth unemployment data for these countries was conducted and the results were shown in Table (2).

Table (2): Results of the Variance Analysis of Youth Unemployment Rate Data in the Arab Countries for the Period (1990-2019)

	Sum of Squares	df	Mean Square	F	Sig.
Between Countries	4439.748	9	493.305	60.742	0.000
Within Countries	2355.173	290	8.121		
Total	6794.921	299			

Table (2) shows that there are statistically significant differences in youth unemployment rates among the Arab countries at (1%). This result does not necessarily mean the difference in youth unemployment rates between each country. Therefore, Arab countries can be divided into homogeneous groups in terms of youth unemployment rates using the Duncan test, where the results were viewed in table (3).

Table (3): Results of the Duncan test for data on youth unemployment in the Arab countries for the period (1990-2019)

Country	N	Subset for alpha = 0.05					
		1	2	3	4	5	6
LBN	30	7.556433					
MOR	30	8.5243	8.5243				
IRQ	30		9.5632	9.5632			
TUN	30			10.3784	10.3784		
SYR	30				11.1422		
DZA	30					14.5068	
EGY	30					15.0533	
SDN	30					15.8381	
JOR	30						18.2188
LBY	30						18.8674
Sig.		0.189	0.159	0.269	0.300	0.088	0.379

Means for groups in homogeneous subsets are displayed.

The results of table (3) indicate that the Arab country group was divided into six homogeneous groups in terms of its youth unemployment rates depending on the degree of statistical significance, which were all greater than the level of (5%). The first group (Libya, Jordan) had the highest rates of youth unemployment, followed by the second group (Algeria, Egypt, Sudan), the third group (Tunisia), the fourth one is (Iraq), and the fifth group (Iraq, Morocco), which is the second group in terms of the lowest youth unemployment rates, while the sixth group (Lebanon) includes the first group in terms of the lowest youth unemployment rates.

In summary there are statistically significant differences at (1%) in youth unemployment rates among Arab countries. The highest rates were in Libya and Jordan, while the lowest rates were in Lebanon.

5. Estimation and analysis:

This section will include the estimating the regression model of youth unemployment rates for Arab countries, and then discussing the hypothesis of the study, which states that there is a strong relationship between the youth unemployment rate and some economic variables, and therefore there is a clear and strong influence of these economic variables on the youth unemployment rate, including: foreign investment, inflation.

Government spending, population growth rate, economic growth rate, degree of economic openness, level of corruption.

Based on the above, the study deals with the economic variables referred to above for ten Arab countries for a period 1990-2019. Therefore, the mechanism for building and analyzing regression models will depend on the panel data, this mechanism differs radically from the mechanism of dealing with cross section data, or time-series data models. Both Eviews-10 and SPSS-26 statistical software will be used to estimate the models and extract the results.

The econometric model to be estimated and analyzed will take the following general form:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \beta_3 X_{3,it} + \beta_4 X_{4,it} + \beta_5 X_{5,it} + \beta_6 X_{6,it} + \beta_7 X_{7,it} + U_{it}$$

$i=1,2,\dots,n$; $t=1,2,\dots,m$

Where, (i) denotes the state sequence and (n) the number of states. And (t) denotes the sequence of time (i.e., year), and (m) the number of years.

The dependent variable is:

Y= Youth unemployment rate, measured as the total youth unemployment as a percentage of total labor force ages 15-24 (modeled ILO estimate)

The explanatory variables are:

X₁= Foreign direct investment as a percentage of GDP.

X₂= Inflation, the proxy variable is GDP deflator (annual %).

X₃= Government spending as a percentage of GDP.

X₄= Population growth rate.

X₅= Rate of growth of GDP.

X₆= Economic openness, the proxy variable is the ratio of total exports and imports to GDP.

X₇= Corruption, the proxy variable is the index of corruption risk, obtained from International Country Risk Guide (ICRG). This index ranges between 0-6 points. The lowest degree is zero (The highest level of corruption risks), and the highest degree is six (The lowest level of corruption risks). Therefore, the index measures the degree of low risk of corruption.

U= Disturbance term, which includes all other variables not included in the model that are believed to influence the youth unemployment rate.

Regression results of the model of youth unemployment in the Arab countries viewed in table (4).

Table (4): Regression Results of the Model of Youth Unemployment Rate in the Arab Countries

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.89891	0.227567	47.89310	0.0000
X1	-0.093577	0.032035	-2.921077	0.0038
X2	0.004746	0.002092	2.268871	0.0240
X3	0.196170	0.013616	14.40706	0.0000
X4	-0.484116	0.045904	-10.54625	0.0000
X5	-0.002933	0.003999	-0.733535	0.4638
X6	-0.523622	0.064147	-8.162792	0.0000
X7	0.529821	0.077710	6.817880	0.0000
$\bar{R}^2 = 0.78$; F-statistic=151.0093; Prob(F-statistic) =0.000; D W= 0.795				

It is evident from the results of table (4) that the youth unemployment rate is significant depending on the probability value of the F-test of (0.00). \bar{R}^2 confirms that explanatory variables explain 78% of the response variable.

Results show that increase in FDI rate leads to a significant decline in the rate of youth unemployment rate, as FDI provides new job opportunities that contribute to increasing employment.

Inflation significantly leads to an increase in the unemployment rate among young. The reason for this is that inflation reflects economic instability, which negatively affects economic performance and then employment.

Increasing government spending increases the rate of youth unemployment. This is because an important part of government spending in Arab countries, under the pressure of high youth unemployment, is directed towards employment in the public sector, on the other hand, youth preference for secured government jobs over working in the private sector, leads to increase queue of unemployed people looking for a government job year after year, and then youth unemployment increases.

It appears that trade openness is reducing the youth unemployment rate. trade openness improves competitiveness and increases employment opportunities, especially for skilled workers.

Two strange results have been attained. The first, is that population growth leads to a decrease in youth unemployment rate. the second, is that reducing corruption risks increases youth unemployment rate.

One of the possible reasons for the negative impact of population growth on the youth unemployment rate can be obtained from a review of the population growth rates of Arab countries during the period 1990-2019. It appears that the population policies applied by the Arab countries have contributed to reducing population growth. As the population growth rate in the Arab countries decreased, according to World Bank statistics, from 2.6 to 2.3 to 2.1 during the 1990s and first two decades of the new century, respectively. This decline in population growth was not associated with a reduction in the number of people entering the labor market from successive population groups, due to the impact of demographic momentum. Large population groups born during the past few decades still flock to the labor market. Hence, the decline in population growth has a positive effect on the youth unemployment rate. This effect may fade in the long-run.

Justifying the positive impact of corruption risks on employment may seem illogical, and even provocative. But with a careful look, we find that the rigid bureaucratic system, regulation and excessive and unjustified government intervention are an obstacle to investment and increased employment. In such a system, bribery may help break the regulatory deadlock that prevents the expansion of investment and increased employment. But we cannot be said that corruption is a good alternative to correcting institutions and reducing government intervention. (Meon P. & K. Sekkat, 2005, 71-74)

Rate of economic growth have not been found to have a significant effect on the youth unemployment rate. This is evidence that economic growth in Arab countries is not favorable to the poor.

6. Conclusion and Policy Implications:

The aim of the research is to measure the effect of different variables on youth unemployment rate in Arab countries using multiple regression method and Panel data for the period 1990-2019. We found that the rate of inflation, government spending, and corruption have a significantly positive effect on youth unemployment rate. While the FDI ratio, the rate of population growth and the degree of trade openness have significantly negative effect on youth unemployment rate. Economic growth has not shown a significant impact on the youth unemployment rate in Arab countries.

For the purpose of starting to address youth unemployment in Arab countries, the implications of the economic policy that are recommended for adoption should be focused on the following:

- ❖ Providing an attractive environment for FDI, and giving additional incentives for forging investments in new projects that require a local workforce.
- ❖ Taking measures to achieve economic stability, which in turn will positively affect the labor market and lead to a reduction in youth unemployment.
- ❖ The best governments are small governments. That is confirms the need to reduce the government's role in economic activity. This entails changing the current development policies based on the patriarchal care of the government especially in the labour market, and opening up a greater opportunity for the private sector.
- ❖ Continuation of the current trend towards reducing population growth. Although decreasing population growth is accompanied by an increase in youth unemployment in the short-run, it is expected that this effect will be reversed in the long-run.
- ❖ Economic growth is an important factor in controlling youth unemployment, but development policies should be modified to ensure that the growth gains are directed towards the poor, to ensure that economic growth contributes to creating job opportunities for youth.
- ❖ More carefully managed trade openness will reflect positively on the labor market, and will contribute more and more to reducing youth unemployment rates.
- ❖ Corruption is reflected positively in the labor market, as it is a catalyst in facilitating work in an institutional environment characterized by stagnation and red tape. In the long-run, however, it is important to change the institutional environment, rationalizing government intervention and regulatory procedures would be a better alternative to expanding investment through bribery and corruption.

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