

## **Evaluation of the Impact of Institutions and Labour Market Labour Programs on the Libyan Labour Market Outcomes in the Transition Period**

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**Abstract:** *This paper examines the impact of both institutions and labour market programs on the Libyan labour market outcomes in terms of employment, wages and work conditions. Libya's labour market is characterized by (i) its skewness towards the public sector, which employs 80 percent of the workforce, whereas private sector employs only 4 percent, (ii) and a high rate of unemployment which peaked at 30 percent in recent years. The study is framed against a background of very serious gaps and limitations in the data available on the Libyan labour market. The paper evaluates and sheds the light on the role of both institutions and labour market programs in the labour market performance in the transition period. Accordingly, the impact of three institutions has been examined. Also, five sorts of training programs have been analysed. Data has been obtained from a questionnaire conducted in the Libyan labour market in both the public and private sectors in 2013. An Ordered Probit Regression Analyses have been used in this study. The study also compares between the impact of institutions and labour market programs impact before and after the revolution of February 17<sup>th</sup> 2011. Results indicate that some institutions have unremarkable role in the Libyan labour market performance; and some training programs would insignificantly impact on labour market outcomes. The study also reveals that the impact of both labour market programs and institutions impact on labour market outcomes is quite better before the revolution.*

**Keywords:** *labour market; transition; training programs; institutions.*

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### **1. INTRODUCTION**

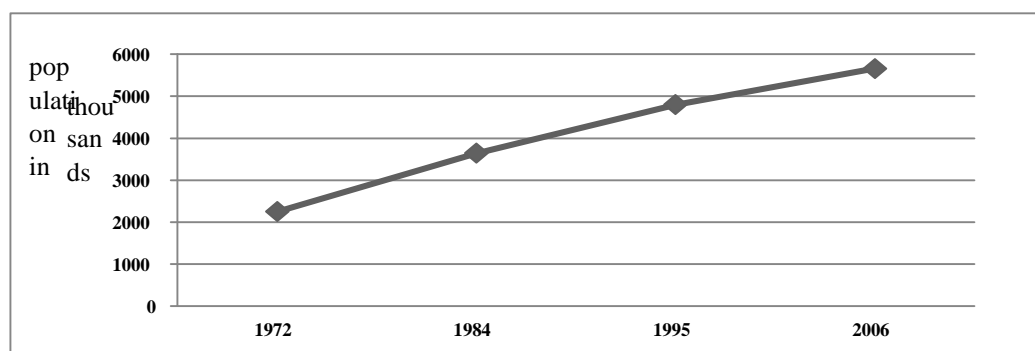
This paper examines the impact of institutions and labor market programs on the Libyan labour market outcomes in the period from 2000 to 2013. Libyan economy is characterized by transition from a planned economy to a free market; this transition affected the Libyan labour market which is characterized by its skewness towards the public sector which employs 80 per cent and the private sector employs only 4 per cent (World Bank, 2014). Both institutions and the labour market programs are playing an enormous role in the labour market outcomes in the transition period to reduce unemployment. One of the major problems of the Libyan economy is the high rate of unemployment. Data released from the Ministry of Labor in September 2013 shows that the unemployment rate has improved to 15 percent in 2013 from its high level of about 20 percent in 2010 and 2011. But unofficial estimates suggest that the actual figure is closer to 30 percent with higher rates for the youth. World Bank estimates show that youth unemployment has remained at about 50 percent with the majority of unemployed holding university degrees.

The transition to a market economy began in Libya after 1988. The introduction of the private sector came at a time of weakening in the labour market with a decline in employment and labour force participation and an increase in unemployment to levels previously unseen in Libya of 30 per cent. Also, some economic negative aspects such as corruption and low productivity appeared in the Libyan economy. Furthermore, the considerable increase in the Libyan population that have affected the transition process where the government was unable to absorb the new entrants to the labour market; hence the unemployment and crime remarkably increased. In addition, the full employment policies and the economic structure that was entirely based on oil and gas revenues has played a negative role in the Libyan economy providing employment for several population segments especially in service and governmental sectors ignoring other sector such as industry and agriculture.

The high unemployment rate continued until after Qadhafi's regime. This happened because of the fact that the wrong policies of ex-regime which focused on leader's security, resumption of political relationships with western countries, and ignoring real economic reforms to face the economic issues in Libya. The economic sanctions which imposed on Libya by the United Nations and the United States have enormously affected the Libyan economy. As a result, no new projects have been established, foreign direct investment recorded negative figures in 1990s, lay off a large numbers of the armed forces, and low income. All these factors created a state of turbulence in the labor market so the unemployment rate tendency continued until end of last decade.

Another issue faces the Libyan policy-makers which is the sharp increase of the Libyan population in the last four decades. According to the latest census (2006), Libya's population was estimated at 5,298,125, increase of the population at an annual rate of 2.17%. (U S Global Health Policy, 2009), the census also shows that the proportion of Libyans older than 15 years has increased from 50 per cent in 1984 to 68 per cent in 2006 (UNDP's, 2008). This increase could create a significant problem to the Libyan government by creating a pressure on labour market. It also will lead to rising demand for social services such as health care, education and security. In addition, the working population is about 1,876,206. This number represents 35 per cent of the total population; accordingly facing the problem of unemployment in Libya remains a big challenge, and the issue is becoming more complicated by the failure of the government to create new jobs. Chart number (1) illustrates the increase of the Libyan population in the period from 1972 to 2006.

**Chart (1)** Libyan population growth 1972 -2006



Life expectancy at birth averages 74 years. The infant mortality rate is about 18 per 1,000 births (compared with an average of 85.3 for all Africa), and the average maternal mortality ratio is 97 per 100,000 live births (Shaaeldin & Hammami, 2009). Also naturalization of some ethnic races from Chad, Mauritania and Egypt has considerably affected population increase in Libya. Furthermore, a rapid demographic transition has temporary raised population growth and skewed the age structure towards the young. The working age population is growing rapidly, and a large numbers of young workers have been difficult to be absorbed quickly into productive employment. Over the last two decades, there has been net migration into Libya, hence increasing the labour supply. Most of the population growth is occurring in urban areas, accompanied by high fertility.

There is an enormous body of evidence from micro-econometric research on the impact of various types of programs on participants' subsequent labour market outcomes. For instance, on-the-job training programs were found not only cheap, but remarkably more effective for participants' subsequent labour market success than classroom training courses. Also, institutions play a significant role in labour market outcomes.

This paper aims to examine and evaluate the labour market programs and institutions in enhancing employability, wages, and work conditions. Data has been obtained from a questionnaire conducted in Libya in 2013. The sample includes employed and unemployed people, and firms in both the public and the private sectors. The descriptive questionnaire gives data about the perceptions of participants, and how do they think and behave about a specific issue(s). Collected data has been analysed using Ordered Probit Regression Model, and Chi

Squared test. Results illustrate that some training programs have insignificant impact on labour market outcomes. Furthermore, some Libyan labour market institutions would have unremarkable role in the Libyan labour market performance. Also, results show that the impact of both labour market training programs and institutions was relatively better before the revolution of 17<sup>th</sup> February 2011.

## **2. MAIN CHARACTERISTICS OF THE LIBYAN LABOUR MARKET IN THE TRANSITION PERIOD**

### **1. Decline in Employment**

The labour market of countries in transition at the onset of the process was associated with full employment, no open unemployment and an excess of labour demand over supply. However, the full employment was also associated with low wages which had a demotivating effect on workers. Widespread overstaffing (labour hoarding) occurred in many sectors and serious distortions in the allocation of labour in industry contributed to low levels of labour productivity. Almost overnight, national economies had been opened to world markets through the introduction of economic measures that also allowed rapid price liberalisation, combined with strict macroeconomic stabilization policy. The result was a sharp decline in the economic performance, much steeper than originally expected. Demand for labour collapsed immediately and, after a short stop, employment also started to decline. Libya has proved no exception, where unemployment increased to figures unseen in the history of the modern Libya, peaking at 30 per cent. Productivity decline was more than reported and became the main feature of the new economy in transition.

### **2. Reducing Participation Rates**

The losses of employment which changed into open unemployment is associated with economic inactivity. Indeed, participation rates of the population aged 15-64 declined considerably in all transition countries between 1990 and 1999 the first decade in transition process Nesporova (2002). Also, she claims that this imbalance was marked in the initial period of economic transition, indicating that strong labour market tensions were resolved primarily by pushing certain disadvantaged, less competitive groups of workers out of the labour market – and only secondarily resolved by open unemployment. This decline is often explained in the literature by more frequent withdrawals of women from the labour market as a result of their deteriorating access to affordable and reliable childcare facilities and the offer of long parental leave.

For the older participant, many resorted to changing their stated ages to remain in work, because of the low income of retirement. This action has contributed to high unemployment where new entrants did not have the opportunity to get jobs.

### **3. Unemployment Trends**

Due to the paucity of data it is difficult to determine the year unemployment began in Libya; but unemployment increased after the alleged economic reforms by the introduction of private sector. Libya has been characterized by persistent growth of unemployment. Firstly, in terms of long-term unemployment. All countries in transition have been characterized by high rate of unemployment. This rate exceeded 68 per cent in 1999 in some countries such as Armenia. After the hard first years of transition most countries of transition have dramatically reduced the unemployment rate. Nevertheless, unemployment in Libya remained very high till the end of the former regime era. Secondly, youth unemployment was an issue. Young people, this means school leavers without work experience, are the hardest hit by unemployment, despite the sharp decline in their participation rates. Generally, in transition economies unemployment in this group of people (below 25) is twice as high as the national average. It is well known that unemployment tends to decline with age reaching the lowest levels for the preretirement population. I argue that this sort of unemployment was a key reason for the Libyan uprising in 2011. Thirdly, there is a gender perspective on unemployment levels, though in this case the picture is blurred. For example, the unemployment rate is higher for men than women in Armenia, Georgia, Hungary and Lithuania, while in Bulgaria and Romania the levels are almost the same. In Libya, the available data refers to the unemployment rate being higher for women than for men. According

to labour survey of 2007, the unemployment rate was 11.8 for men and 17.2 for women (GAI, 2007).

### **3. THE IMPORTANCE OF LABOUR MARKET PROGRAMS IN TRANSITION ECONOMIES**

Active Labour Market Programs (ALMPs) basically have two objectives: (i) economic, by increasing the probability of the unemployed finding jobs, productivity and earnings; and (ii) social, by improving inclusion and participation associated with productive employment. Consequently, these programs can contribute to increase employment generation and handle the social problems that often associated with high unemployment. Furthermore, ALMPs are widely used to lessen the negative effects of industrial restructuring in transition economies and help to integrate vulnerable people furthest from the labour markets. They are considered "active" programs in contrast to "passive" measures such as unemployment insurance or social transfers designed to mitigate the financial hardships of the unemployed. ALMPs include a wide range of activities to stimulate employment and productivity such as; increasing both the quality of labour supply and labour demand. The experience of Central and Eastern European transitional economies' is that, prior to the transition unemployment was virtually non-existent, and there was no income support scheme for those losing their jobs in the course of the economic transformation. Therefore, keeping such a situation was a substantial challenge for the governments of these countries. Thus, looking for policies that try to generate employment was a key objective for policy-makers of those economies.

### **4. INSTITUTIONS' IMPACT IN TRANSITION ECONOMIES**

With the collapse of Communism there was widespread optimism that the transition economies were on the threshold of a new era of economic prosperity brought about by the operation of a market economy. The main features of a market economy are the dismantling of the government's regulation and the liberalisation of prices. In this way, a price mechanism would be introduced to allocate goods to their most productive uses. However, in many economies the expected benefits, during the first decade of transition, have largely failed to materialize (Cough & Hill, 2002). Libya has proved no exception where the economy failed to make any improvement and to meet the requirement of the new economy. One of the explanations of this failure is suggested by the emerging literature linking institutions and economics, where it is argued that, for a market economy to function effectively, it must be supported by an institutional framework including such as well-protected property rights.

Institutions are playing a key role in developed countries; this role can contribute to the growth of economy and protect the agents who are working within these countries. According to Tridico. & Pasquale (2011) institutions are important to the economic growth through the following points:

- "Firstly, there is the existence of uncertainty. Institutions reduce uncertainty, render economic relationship stable and create common rules and languages in which single agents can operate in order to protect themselves from accusations of illegality and from aggressive actions of other agents. Institutions create mechanisms through which individuals act to make loans, invest and sell and buy within a stable framework, governed on the one hand by formal institutions such as law and on the other hand by informal behavior such as reputation and trust.
- Institutions enable the deciphering and circulation of a large amount of information among agents.
- Fast transactions in the current age of the microchip and digital information increase price volatility. Within, this context institutions rules and standard behavior can be useful in reducing agent speculation.
- Last but not least, institutions are crucial in the creation of an environment where education, innovation and knowledge – all useful elements for economic development – are available to people and can be accessed by people".

In addition, labour market institutions would provide a channels for the unemployed to find their jobs. These points motivated the transition economies to build new institutions for improving the

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performance of the economy, and to benefit from the new rules that govern the labour market. Therefore, there was an urgent need to eliminate the old institutions and rebuild new.

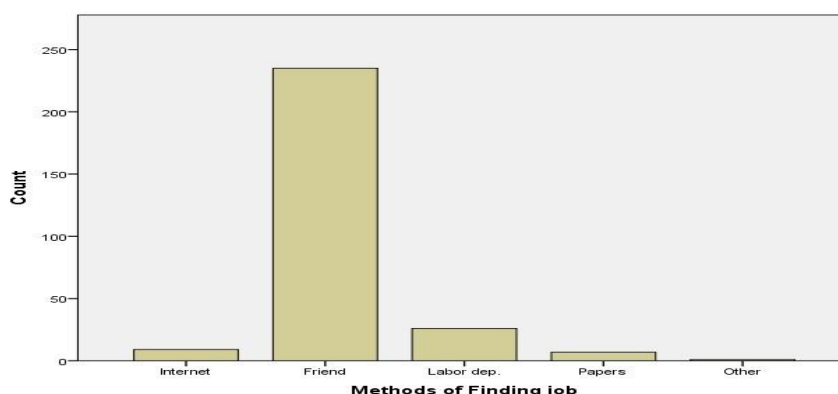
The transition process has opened a wide horizon in economic growth among the ex-communist countries of Central and Eastern Europe and Central Asia as well. Therefore, virtually each country with a transition economy has its own experience in terms of institution building. For example, countries like Lithuania and the Slovak Republic, while making substantial progress in the implementation of macroeconomic reforms, failed to impose hard budget constraints on ailing state enterprises during the initial phase of transition. The Kyrgyz Republic, Moldova, Russia and the Ukraine, while making progress early on in liberalizing and privatizing their economies, got stuck in a so-called reform trap because of the capture of the state by the former nomenclature and well-connected early entrants (Murphy, Shleifer, & Vishny, 1992).

### 5. THE IMPACT OF QUALIFICATIONS ON THE LABOUR MARKET

Job mismatches are reported to have serious effects on a number of labour market outcomes. Mismatch in the labour market, in the form of educational or skills mismatch, is known to be associated with negative labour market outcomes. Employees who do not utilize fully their education qualifications or their skills and abilities earn lower wages, have lower job satisfaction and experience higher voluntary and involuntary labour mobility (Mavromaras, Sloane, McGuinness, Wei, & O'leary, 2010). Recent advances in the literature show that educational and skills mismatches are distinct empirical phenomena with different labour market outcomes that need to be studied separately.

Impacts of education on labour market outcomes reflect the differences in “ability” of individuals across the education distribution rather than the effect of education per se. therefore, estimating the effects of education on labour market outcomes for individuals, such as wages, employment and work conditions, is not straightforward because it is hard to distinguish the effects of education on wages from the effects of attributes, like ability, which are not measured in our data but which are correlated with both education and wages.

It is clear that people in Libya mostly found their job through friends or relatives. This is not surprising where the Libyan society is tribal and the tribes have a dominant impact on the Libyan society. So, the match between jobs and qualification is disregarded in most of cases. See chart (1) which indicates the methods of finding jobs in the Libyan labour market.



**Chart 1.** *Methods of finding jobs in the Libyan labour market*

The chart shows that Libyans are likely found their jobs by relatives and friend. Whereas, other method such as labour department, internet, and papers have low impact on Libyan labour market in terms of employment.

### 6. DATA AND METHODOLOGY

#### 6.1. Data

The Libyan authorities do not publish data about economy; for instance there is no labor market survey or such studies about the labour market. Therefore, the absence of comprehensive time

series labour market and economic data of large-scale cross-sectional and longitudinal data means that formal econometric evaluations of the research questions are not possible. Instead the approach that was taken to examine the effect of both labour market programs and institutions on labour market outcomes is a descriptive questionnaire which conducted in Libya in 2013 to collect much of the required data for this study. The questionnaire provides unavailable data about the labour market programs. The emergent data from the questionnaire is analysed using ordered probit model. The sample was stratified random sampling technique; and number of participants is 316 from public and private firms around the country.

## **6.2. The Ordered Probit Model**

It is widely used approach to estimating models of this type is an ordered response model, which allows to employ the probit link function. This model is often referred to as the “ordered probit regression” model. Like many models for qualitative dependent variables, this model has its origins in bio-statistics (Aitchison & Silvey, 1957) but was brought into the social sciences by two political scientists (McKelvey & Zavoina, 1975). The central idea is that there is a latent continuous metric underlying the ordinal responses observed by the analyst. Thresholds partition the real line into a series of regions corresponding to the various ordinal categories. The latent continuous variable,  $y_i^*$  is a linear combination of some predictors,  $x$ , plus a disturbance term that has a standard Normal distribution:

$$y_i^* = x_i\beta + e_i, \quad e_i \sim N(0, 1), \quad \forall i = 1, \dots, N. \quad (1)$$

$y_i$ , the observed ordinal variable, takes on values 0 through  $m$  according to the following scheme:

$$y_i = j \Leftrightarrow \mu_{j-1} < y_i^* \leq \mu_j,$$

Where  $j = 0, \dots, m$ , and by slight abuse of notation in the pursuit of completeness I define

$$\mu_{-1} = -\infty, \text{ and } \mu_m = +\infty.$$

Like the models for binary data, concern with how changes in the predictors translate into the probability of observing a particular ordinal outcome. Consider of each ordinal outcome:

$$\begin{aligned} P [y_i = 0] &= P [\mu_{-1} < y_i^* \leq \mu_0], \\ &= P [-\infty < y_i^* \leq \mu_0], \\ &= P [y_i^* \leq \mu_0], \end{aligned}$$

Substituting from (1)

$$\begin{aligned} &= P [\mathbf{x}_i\beta + e_i \leq \mu_0], \\ &= P [e_i \leq \mu_0 - \mathbf{x}_i\beta], \\ &= \Phi (\mu_0 - \mathbf{x}_i\beta); \end{aligned}$$

$$\begin{aligned} P [y_i = 1] &= P [\mu_0 < y_i^* \leq \mu_1], \\ &= P [\mu_0 < \mathbf{x}_i\beta + e_i \leq \mu_1], \\ &= P [\mu_0 - \mathbf{x}_i\beta < e_i \leq \mu_1 - \mathbf{x}_i\beta], \\ &= \Phi (\mu_1 - \mathbf{x}_i\beta) - \Phi (\mu_0 - \mathbf{x}_i\beta). \end{aligned}$$

It is straightforward to see that:

$$P [y_i = 2] = \Phi (\mu_2 - \mathbf{x}_i\beta) - \Phi (\mu_1 - \mathbf{x}_i\beta),$$

And that generically

$$P [y_i = j] = \Phi (\mu_j - \mathbf{x}_i\beta) - \Phi (\mu_{j-1} - \mathbf{x}_i\beta).$$

For  $j = m$  (the “highest” category) the generic form reduces to

$$\begin{aligned} P [y_i = m] &= \Phi (\mu_m - \mathbf{x}_i\beta) - \Phi (\mu_{m-1} - \mathbf{x}_i\beta), \\ &= 1 - \Phi (\mu_{m-1} - \mathbf{x}_i\beta) \end{aligned}$$

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To estimate this model MLE must be used, and so first I need a log-likelihood function. This is done by defining an indicator variable  $Z_{ij}$ , which equals 1 if  $y_i = j$  and 0 otherwise. The log likelihood is simply.

$$\ln L = \sum_{i=0}^N \sum_{j=1}^m Z_{ij} \ln[\Phi_{ij} - \Phi_{i,j-1}]$$

Where  $\Phi_{ij} = \Phi[\mu_j - \mathbf{x}_i\beta]$  and  $\Phi_{i,j-1} = \Phi[\Phi_{i,j-1} - \mathbf{x}_i\beta]$ .

### 7. ANALYSES AND RESULTS

#### 1. The Impact of Labour Market Programs on the Libyan Labour Market Outcomes

I shall start the analyses with the impact of training programs in the Libyan labour market outcomes, so five sorts of programs have been analysed (i) receiving necessary training programs; (ii) receiving training programs on new technologies; (iii) receiving on-the-job training programs (iv) receiving off-the-job training programs and, (v) receiving pre-employment programs. Using the Ordered Probit Model regression analysis the results would be as following:

Number of observations	=	311
LR chi2 (5)	=	11.30
Prob > chi2	=	0.045
Log likelihood	=	-426.29348
Pseudo R2	=	0.0131

**Table 1.** *the impact of training programs on the Libyan labour market outcomes*

Labour market outcomes in terms of employment, wages, and work condition	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval
On job training	-.001423	.0027498	-0.52	0.605	-.0068126	.003966
Off job training	.0027808	.0026731	1.04	0.298	-.0024585	.008020
Receiving needed programs	.0020808	.0025958	0.80	0.423	-.003007	.007168
Pre-employment training programs	-.005081	.0024291	-2.09	0.036	-.0098426	.000320
New technology programs	-.006357	.002781	-2.29	0.022	-.0118078	.000906

From the analyses it can be seen that  $P>|z|$  - which is the probability the z test statistic (or a more extreme test statistic) would be observed under the null hypothesis that a particular predictor's regression coefficient is zero, given that the rest of the predictors are in the model. For a given alpha level,  $P>|z|$  determines whether or not the null hypothesis can be rejected. If  $P>|z|$  is less than alpha, then the null hypothesis can be rejected and the parameter estimate is considered statistically significant at that alpha level. So, I can conclude that: on-the-job training programs, off-the-job training programs, and receiving needed programs have an insignificant impact on the labour market outcomes in terms of employment, wages and work conditions. Whereas pre-training programs and training on new technologies have a positive effect on the Libyan labour market performance.

The impact of training programs on gender

### I-Female

**Table 2.** *The impact of training programs on females*

L.M. outcomes	Coef	Std. Err.	z	P> z	[95% Conf.	Interval
On job training program	-.0021912	.0027377	-0.80	0.423	-.007557	.0031746
Off job training program	.0031465	.0026656	1.18	0.238	-.0020779	.0083709
Receiving needed programs	.0035072	.0025869	1.36	0.175	-.0015631	.0085775
New technologies training programs	-.0072559	.0027757	-2.61	0.009	-.0126961	.0018157
Pre-employment training programs	-.0040238	.0023679	-1.70	0.089	-.0086649	.0006172
Females	(1) Offset					

### II-Male

**Table 3.** *The impact of training programs on males*

L.M. outcomes	Coef	Std. Err.	z	P> z	[95% Conf.	Interval
On job training program	-.0026441	.0027443	-0.96	0.335	-.008023	.0027347
Off job training program	.0030431	.0026729	1.14	0.255	-.0021957	.0082819
Receiving needed programs	.0019357	.0025953	0.75	0.456	-.0031511	.0070224
New technologies training programs	-.0056197	.0027762	-2.02	0.043	-.0110611	.0001784
Pre-employment training programs	-.0056828	.0023703	-2.40	0.017	-.0103285	.001037
Males	(1)Offset					

The analyses show that the impact of training programs on gender differs from males and females. For instance, the impact of pre-employment programs is significant on both females and males. However, the impact of new technology training programs is remarkable on male and insignificant on female. The impact of the other categories is insignificant on both males and females in separate analyses.

## 2. The Impact of Training Programs and Institutions on Both the Job Market and Job Search, and Supporting the Unemployed in Terms of Job Search Before and after the Revolution of 17 February 2011

This part of the analyses discusses the impact of some factors on the Libyan labour market before and after the 17 February 2011 revolution, which overthrew the dictatorial regime. So, I examine the role of labour market institutions and training programs in preparing unemployed people for the job market before and after the revolution. Also, I test the impact of training programs and institutions on supporting the unemployed in terms of job search and financial support. The ordered probit regression analysis shows that:

Ordered probit regression

Number of observation = 289

LR chi2 (4) = 20.97

Prob > chi2 = 0.0003



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Log likelihood = -438.21982

Pseudo R2 = 0.0234

**Table 4.** *The impact of training programs and institutions on both the job market and job search, and supporting the unemployed in terms of job search before and after the revolution of 17 February 2011*

Labour market outcomes in terms of employment, wages, and work condition	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval
Role of institution and training programs in preparing unemployed people before the Revolution	.0119545	.002923	4.09	0.000	.0062256	.0176834
Role of institution and training programs in preparing unemployed people after the Revolution	.0047924	.0028072	1.71	0.088	-.000709	.0102944
Role of institutions and training programs in supporting the unemployed in terms of job search and financial support before the revolution.	.0028857	.0026958	1.07	0.284	-.002398	.0081694
Role of institutions and training programs in supporting the unemployed in terms of job search and financial support after the revolution	-.001818	.0021499	-0.85	0.398	-.006032	.0023951

From the analysis it can be concluded that the role of institutions and training programs in terms of preparing the unemployed people before the revolution was statistically significant. The value of  $P>|z|$  is 0.000 which is less than the value of alpha 0.05. On the other hand, the role of institutions and training programs in supporting the unemployed financially and in terms of job search before and after revolution is insignificant. The  $P>|z|$  values are greater than alpha 0.05. Also, statistics indicate that the financial support and job search was better before the revolution.

**3. The Relationship between the Labour Market Outcomes and Employees' Qualifications**

Chi-Square test which commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis; in other words it allows us to understand for deviations of observed frequencies from expected frequencies. In this paper Chi-square was used to find the relationship between qualifications and labour market outcomes. So, the hypothesis was that employees' qualifications positively affect the labour market outcomes in terms of employment, wages and work conditions. So, the null hypothesis would be that there is insignificant relationship between the workers' qualifications and labour market performance. The following tables show the results of Chi-squared test.

**Table 5.** *Chi-square analysis*

Chi-Square test of relationship between the labour market outcomes and employees' qualifications

	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	19.857 <sup>a</sup>	16	.227		
Likelihood Ratio	20.043	16	.218		
Linear-by-Linear Association	1.291	1	.256		
a. 11 cells (44.0%) have expected count less than 5. The minimum expected count is 1.17.					
		Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Nominal by Nominal	Phi	.279			.227
	Cramer's V	.140			.227

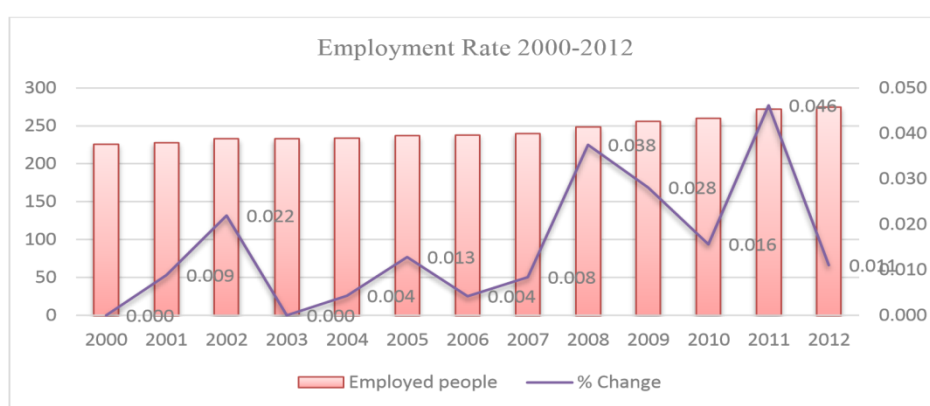
Interval by Interval	Pearson's R	.071	.064	1.137	.257 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	.080	.064	1.276	.203 <sup>c</sup>
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

The analysis indicates that the Chi-square value is 19.857, and the *p-value* is 0.227 which is greater than 0.05. Therefore, I reject the hypothesis and accept the null hypothesis. That means, employees' qualifications have insignificant impact on the labour market outcomes.

**4. Employment Rate**

Statistics from the survey indicate that the employment rate was very low in the period from 2000 to 2012. The change in employment ranges from 0 per cent in 2003 to 4.6 per cent in 2011. Chart (2) indicates fluctuation in employment rates. Note that there were no negative figures for percentage change in the thirteen years.

**Chart-2** Employment Rate 2000 - 2012



**5. The Impact of Institutions on the Libyan Labour Market Outcomes**

Examining the role of institutions on labour market outcomes by the ordered probit model illustrates that the majority of the population consider that the Libyan labour market performance is not good. From my point of view this weakness is due to lack of performance of some factors such as training programs and institutions. In this part, the analyses show whether institutions such as unions, government or youth employment centres have positively impacted the labour market outcomes?.

Ordered probit regression

- Number of observations = 289
- LR chi2 (3) = 6.23
- Prob > chi2 = 0.1008
- Log likelihood = -437.84883
- Pseudo R2 = 0.0071

**Table-6** The impact of institutions on the Libyan labour market

Labour market outcomes in terms of employment, wages, and work condition	Coef	Std. Err.	z	P> z	[95% Conf.	Interval
Unions contribution to the L.M.	.0029031	.0028323	1.02	0.305	-.0026481	.0084544
Youth Employment centres contribution to L.M.	-.0029123	.0032095	-.91	0.364	-.0092029	.0033783
Government institution contribution to L.M.	.006252	.0030107	2.08	0.038	.0003511	.012153

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The model illustrates that impact of the government on the Libyan labour market is significant. The value of  $P > |z|$  is less than the value of alpha 0.038. Whereas, the impact of other institutions is insignificant the value of  $P > |z|$  is greater than alpha value at 0.305 for Unions and 0.364 for Youth Employment Centers.

### 8. DISCUSSION AND CONCLUSION

1. It is well established that training programs are a means to improve the performance of less qualified workers and to facilitate their mobility in the labour market. It might be difficult to robust measurements of the impacts of training programs on the labour market for many reasons (Blasco, Crepon, & Kamionka, 2008). Firstly, there is no homogeneity in training programs, because there are many types of programs that differ from one to another in their purposes or effects. For instance, it found that training programs have a significant impact on wages in United States, Great Britain and Germany (Parent, 2003). On the other hand, research illustrates that there is a weak or insignificant impact of training programs on wages in Europe (Genfin, 2004). In this research five categories of training programs have been analysed: Do workers receive necessary training programs? Do workers receive training programs on new technologies? On-the-job training programs, off-the-job training programs, and the pre-employment training programs? The impact of training programs on the Libyan labour market was found to be significant in some categories such as pre-employment programs and training on new technologies. On the other hand, the impact of the other programs on the Libyan labour market was insignificant.

Furthermore, examining each factor of training programs and their impact on the labour market indicates that there is no significant effect of some factors on the labour market outcomes. However, the analyses show quite large differences in these factors in their impact on the Libyan labour market. For instance, receiving training programs on-the-job was found to have the least impact on the Libyan labour market, followed by receiving needed training programs. Moreover, the impact of training programs on the labour market in terms of gender has been analysed. The results show that there is a quite difference between females and males and their experience with training programs. For instance, the impact of new technologies programs is greater on females than males; however the effect of pre-employment programs on males is greater than females; though this difference cannot be considered significant. According to (Card, Ibarraran, Regalia, Rosas-Shady, & Soares, 2011) in the Dominican Republic there were no significant differences in training program's employment impact on different genders.

The survey shows that the perceptions of the participants about employment rate in Libya are very low which was ranging from 0 per cent in 2003 to 4.6 in 2011. These figures are very low compared to the employment rate in countries in transition in the year 2008. See the following table.

**Table-7** Employment rate in some countries in transition in 2008 (UNECE, 2013)

<i>Country</i>	<i>Employment rate</i>
<i>Czech Republic</i>	14.5
<i>Poland</i>	42.2
<i>Russia</i>	9.6
<i>Kazakhstan</i>	34.7
<i>Romania</i>	21.7

2. Institutions have played a considerable role in the economies of the countries in transition. Indeed, their role was ineffective at the outset of the transition process because of the destruction of the social institutions. However, the role of institutions has positively changed where its impact on employment has clearly seen in those countries in East Europe. The Libyan authorities and decision-makers did not pay much attention on the role of the institutions; where all social and political institutions remained effective in the transition period; the analyses demonstrate the impact of the institutions on the labour market is not remarkable. Using the ordered probit regression model illustrate the ineffectiveness of this sector on labour market in terms of employment, wages and work conditions. Three

institutions have been taken in consideration in these analyses: the Youth Employment Centers, Unions, and Governmental institutions. The results show that apart from the governmental institutions their impact was weak in the transition epoch. In other words, the Libyan labour market in particular and the Libyan economy in general did not benefit from such a potentially good factor.

3. The relationship between the employees' qualifications and the labour market outcomes has been examined to find out its impact. By using the ordered probit model regression I found that qualifications also have unremarkable impact on the labour market performance. Furthermore, the analyses in terms of qualification show that the impact of people, who have university or higher degree have the greatest impact on the labour market performance, then comes the group of people who didn't finish high school which its impact is better than the people who have vocational degree. Lastly, comes the category of high school. The tables (7.3 and 7.4) show the level of education of labour market in countries in transition and Libya.

**Table 8.** *Level of education of the labour force as a per cent of the total labour force in some countries in transition at the outset of transition period (Boeri & Keese, 1992)*

	<i>Basic</i>	<i>Vocational</i>	<i>Secondary</i>	<i>Higher</i>	<i>Other*</i>
<i>Bulgaria</i>	44.6	15.8	30	9.6	-
<i>Czech Rep.</i>	26	21	43.8	9.2	-
<i>Slovenia</i>	26	21	43.8	9.2	-
<i>Hungary</i>	38.4	23.1	6.9	11.6	-
<i>Poland</i>	34.2	29.5	27.9	8.4	-
<i>Romania</i>	35.8	31.4	24	8.8	-

\*Other includes those people who are currently studying

And table number (7.4) demonstrates the level of education of the labour market according to the conducted survey.

**Table 9.** *Level of education of the Libyan labour market according to the survey participants*

	<i>Primary school</i>	<i>High school not year 12</i>	<i>High school</i>	<i>Vocational</i>	<i>University or higher</i>
<i>Libya</i>	0.8	23.3	16.3	17.4	42.2

The above two tables illustrate that the level of education in Libya is dissimilar to those countries in transition, where the level of education in those countries depends on the basic level of education more than other levels; whereas, in Libya the perceptions of the participants consider that the level of university or higher have the highest contribution to the labour market.

## **9. CONCLUSION**

The study of the Labour Market is one of the most interesting and beneficial studies in economics; this study has been conducted to examine the Libyan labour market outcomes taking in consideration the role of both training programs and institutions in the period of transition from Socialism to the free-market. The paper evaluates and sheds the light on the role of both institutions and labour market programs in the labour market performance in terms of employability, wages and work conditions in the transition period. Accordingly, five sorts of training programs have been analysed, and three types of institutions been examined. Data has been obtained from a descriptive questionnaire conducted in the Libyan labour market in both the public and the private sectors. An ordered probit regression analysis was being used in this research to find out the relationship between variables. That is, many techniques have been used for modelling and analysing several variables where the focus was on a dependent variable "labour market outcomes" and more independent variables such as training programs and institutions. The research findings illustrate that the impact of some training programs such as on-the-job, off-the-job training programs and needed training programs have insignificant impact on the labour market outcomes. Also, the impact of some institutions like unions and youth employment centres have unremarkable role in Libyan labour market outcomes in terms of employability, wages and work condition. In addition the results indicate that the role of training programs and institutions before the revolution of February 17<sup>th</sup> 2011 was better than after the

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revolution. Therefore, Libya has to undertake the delayed economic, financial, legal, administrative and political reforms to create the base for efficient resource creation and utilisation in order to boost economic development in general and the labour market in particular. This will provide the opportunity for the development of a market economy, labour market, and private sector and also integration into the global economy and how to benefit from other countries' experiences.

### **REFERENCES**

- Aitchison, J., & Silvey, S. (1957). The Generalization of Probit Analysis to the Case of Multiple Responses. *Biometrika*, 44, 131-140.
- Cough, R., & Hill, R. (2002). Property rights and the Allocation of Time in Economics in Transition. In T. U. o. N. S. Wales (Ed.). Sydney: School of Economics.
- GAI. (2007). Labor Survey. General Authority for Information.
- Mavromaras, K., Sloane, P., McGuinness, S., Wei, Z., & O'leary, N. (2010). Job Mismatches and Labour Market Outcomes: Panel Evidence on Australian University Graduates. IZA DP No. 5083, Institute for the Study of Labo.
- McKelvey, R., & Zavoina, W. (1975). A Statistical Model for the Analysis of Ordinal Level Variables. *Journal of Mathematical Sociology*, 4, 103-120.
- Murphy, K., Shleifer, A., & Vishny, R. (1992). The Transition to a Market Economy: Pitfalls of Partial Reform. *Quarterly Journal of Economics*, 107(3), 899-906.
- Nesporova, A. (2002). Unemployment in the Transition Economies Economic Survey of Europe (Vol. 20).
- Shaaeldin, E., & Hammami, S. (2009). Country Profile. The Socialist People's Libyan Arab Jamahiriya Country Engagement Note, Abidjam(African Development Bank).
- Tridico., & Pasquale. (2011). Institutions, Human Development and Economic Growth in Transition Economies (pp. 319).
- U S Global Health Policy. (2009). Libyan Arab Jamahiriya: Demography & Population U S Global Health Policy. Retrieved 30/1/2010, from <http://www.globalhealthfacts.org/country.jsp?i=88&c=128&cat=7>
- UNDP's. (2008). Human development Report. New York: United Nations Development Programme. World Bank. (2014). Mena Quarterly Economic Brief January 2014, 17-18(2).