



Impact of economic diversification on graduates employment



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ABSTRACT

Economic diversification is defined as the diversity of goods and services produced at any economy. The economic diversification is a significant issue for many developing countries, particularly for those countries which traditionally relied heavily on the production of primary commodities. Economic diversification is also looked as a means to reduce economic risks. The present article can be seen in the analysis of the effects of economic diversification on the diversification of job opportunities, especially for university graduates. The aim of this paper is to study the impact of economic diversification on the graduate's employment rate in Saudi Arabia during the period 2005–2016. The results show that successful economic diversification contributes positively to job creation. Moreover, The Saudi Arabia case study shows that the actual economic diversification level of the kingdom is low regarding the creation of new job opportunities, especially for the bachelor's degree holders. Accordingly, the Saudi government needs to raise its level of economic diversification so that it can create graduates' opportunities for jobs.

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1. Introduction

The United Nations define the economic diversification as "the process in which a growing range of economic outputs is produced. It can also refer to the diversification of markets for exports or the diversification of income sources away from domestic economic activities" (UNFCCC, 2009). It reflects the process of economy moves to a less concentrated production and trade structure. Low economic diversification countries have the least varied economic structures usually with a heavy reliance on farming or minerals. Economic diversification can be measured by different ways, such as: Economic Complexity Index, IMF Export Diversification Index, IMF Export Quality Index, and Manufacturing Value-Added Gini (International Monetary Fund, 2016).

Recently, the Saudi Arabia government's made serious attempts to diversify sources of national income and reducing dependence on oil by increasing the share of other productive sectors in Gross Domestic Product. Since petroleum products

(oil and gas) have become highly demanded products all over the world, the Saudi Arabia economy became dependent on oil product revenues. Economic diversification has been a target for the Saudi Arabia since forty years ago. Even though Saudi Arabia efforts made to achieve that goal the World Bank Data shows a decline in this diversification. The average of economic diversification index in Saudi Arabia reaches a high level of six over the period 1971–1982. However, from 1983 to 2010 the average of Saudi Arabia's economic diversification index declines to level of five.

In line with the decline of the index of economic diversification, the Saudi Arabia has relatively become unstable in employment situations, where the rate of employment is weak compared to the economic potential of the Saudi Arabia. Statistics show that unemployment rate reaches to 5.7 per cent as a maximum level and 5.1 per cent in 2008 as a minimum level. Concerning the average rate of unemployment in Saudi Arabia data of General Authority for Statistics shows that 5.53 per cent represent the unemployed person.

The study carried an empirical investigation for economic diversification impacts' on employment and graduate's employment. The aim of the study is to investigate the relationship between economic diversification and employment, and to evaluate the impact of economic diversification on the graduate's

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employment. Moreover, Saudi Arabia is selected as the case study for the period 2005-2016, based on World Development Indicators database. The study originality can be seen from the economic diversification derived impacts. The findings would help decision-makers to make economic restructuring to achieve graduate's employment.

The rest of the paper was structured as follows. The next section provides a literature review on economic diversification impacts. Section 3 presents theoretical framework and hypotheses. Section 4 presents empirical results. Section 5 was devoted to concluding.

2. Literature review

This literature review is focused on economic diversification benefits and its relationship with employment. Literature review shows some advantages of economic diversification on the economics and on labor market. Economic diversification is perceived as a priority by many natural resource rich countries. The study of relationships between employment growth and industrial diversification in 50 U.S. states from 2000 to 2013 show that over-reliance on employment in stable industries might retard employment growth, but that over-reliance on employment in volatile industries does not have a clear positive or negative impact on employment growth (Peelers and Adkisson, 2017). The study of relationships between industrial diversity and employment growth of the Tenth District of the U.S. Federal Reserve System confirms that industrially diverse county to have more stable growth, but that long-run employment growth does not seem to be affected by industrial diversity (Felix, 2012). The study of the impacts of regionally different labor market regulations in Spain confirms that industrial diversification is not the only potential influence over employment volatility and growth (Cabralés and Hopenhayn, 1997). The study of the influence of economic diversity on unemployment and stability in most metropolitan areas in the U.S. show that cities with diverse industrial structures have a measure of protection against high unemployment and instability. At those city workers can move fluidly from one industry to another in order to exploit opportunities for reemployment or new employment. These findings support the hypothesis that more industrial diversity leads to lower unemployment rates and less employment instability in the U.S. areas studied. When some industries experience difficulty, other industries can effectively reemploy the displaced workers. Conversely, high employment concentration in unstable industries tends to generate higher unemployment rates and more instability. In a metropolitan area with a large percentage of employment in an unstable industry lacks the ability to compensate for fluctuations in market demand (Malizia and Ke, 1993). Albassam (2015) indicated that economic diversification is necessary for

sustainable economic growth. Considering that an economy of a state that highly dependent at unique income resource is in danger of instability and even collapse. Additionally, economic diversification contributes positively to creating jobs, fighting corruption, and improving the institutional quality of countries. Economic diversification is related to economic stability where economy's reliance at one income resource put economy at instability risk and inability to maintain a certain level of economic growth in the long run (Mobarak and Karshenasan, 2012). Radetzki (2012) indicated that countries where their economies rely almost on a unique natural resource and do not make sufficient effort to diversify income resources fall in the risks of resource curse, which has a negative influence on economic development. The literature shows some studies which have attempted to set the impact of economic diversification on graduate's unemployment. The study of relationships between non-oil export shares over the period 1962-2012 and the non-oil private sector employment share over the period 1969-2008 for world's 35 oil exporters, confirm a strong negative correlation between oil dependency and diversification (Alsharif et al., 2017). Uzonwanne (2015) attempted to seek out how diversification of the economy will enhance stable and viable economic growth in Nigeria. They indicated that the only thing that will save Nigeria from her economic crunch now or in the future is the diversification of her economy. They confirm that if Nigeria diversifies her economy, it will increase her GDP. Albassam (2015) examined the Saudi government's efforts to diversify the economy using four variables: oil share of gross domestic product (GDP), the share of private sector in GDP, oil exports as a percentage of the country's exports, and oil revenues as a percentage of total revenues. Its results show that, despite the Saudi government's efforts to diversify the economy, oil is still the main engine driving the economy. A study of the relationship between manufacturing diversification and the level of economic development in 29 African countries shows countries further along the African economic development path successfully diversified manufacturing (Clark et al., 2016). Devaux (2013) confirmed that economic diversification contributes to creating jobs, to diversified sources of job creation, to protect the labor market and prevent the risk of collapse of the economy. Hertog (2013) indicated that in less diversified economies, job creation and development tend to be concentrated near mines and oil fields or in urban areas. He also confirmed that balanced development between rural and urban areas is one of benefit of economic diversification. That given all the efforts of Saudi governments to diversify the economic activities through its attempts, improving the distribution of economic activities across urban areas, the map of the distribution of production units between all Kingdom areas has not changed much. Chandio et al. (2017) confirmed that trade openness and diversification play an important role in boosting

economic growth in Pakistan. Indeed, economic development is an important factor of regional planning and it is one of the strongest factors for regional cooperation. For the United Arab Emirates, Sharpley (2002) despite the economic diversity witnessed, it has not yet reached a level of diversification that reduces the risk of economic crises www.p30download.com.

3. Theoretical framework and hypotheses

Economic diversification is considered a challenge for many developing countries, especially in the era of globalization and technological development which witnesses the generation of new opportunities for economic resources exploration and production activities. This challenge of diversification is great for countries whose economies are dominated by minerals and raw materials. These countries are exposed to unbalanced growth and economic shocks, such as weather related shocks in agriculture and sudden price shocks for minerals. The diversified economy normally supports economic activities within it and creates a sustainable economic activity. Other benefits of an economic diversification include improving exports of goods and services; reduction of economy's dependence on some fragile economic sectors; and reduction of the emergence of economic crises.

In addition to the economic diversification challenge some developing countries face the graduates' employment challenge. The analysis of the economic diversification should be viewed as a necessity in the context of unemployment in many countries. The literature of economic diversification shows few studies have been done to investigate the relationship between economic diversification and unemployment. This article attempts to address the potential benefits of economic diversification for employment among graduates. The authors assumed that economic diversification leads to improvement of national employment. Moreover, reducing unemployment of graduates is difficult to be achieved in countries whose economies are concentrated upon natural resources. Diversification also provides a more stable path for growth and job creation for university graduates.

The successful economic diversification is looked as means to increase the number of job opportunities. The authors also, assumed that without economic diversification the private sector do not be able to create job opportunities especially for university graduates. Following the argument of the expected link between economic diversification and the unemployment in the previous statement, we carried out empirical tests to answer the main question: Does economic diversification influence the employment of graduates in Saudi Arabia?

This study assumed that there are significant relationship between explanatory variables and the ED. Hypotheses statements could be presented as follows: H1: the economic diversification has a

significant and positive impact on unemployment rate of bachelor's degree graduates. H2: the economic diversification has a significant and positive impact on unemployment rate of higher diploma's / master's degree holders. H3: the economic diversification has a significant and positive impact on unemployment rate of doctorate's degree holders. To test the preceding hypotheses, the authors suggest the impact of ED and GDP on unemployed graduates by educational attainment. The used model is presented as follows.

$$GU_t = \alpha_0 + \alpha_1 ED_t + \alpha_2 GDP_t + \varepsilon_t \quad t = 1, \dots, T \quad (1)$$

Where the dependent variable (GU_t) is the unemployed graduates of academic degree at year t , ED_t is the economic diversification at year t , and GDP_t is a Gross Domestic Product is control variable at year t . The subscript t indexes year and T are the number of years studied. The exponent's α_1 , α_2 are the parameters of exogenous variables, α_0 is the intercept coefficient that shows the rate at which GU will change independently of stated explanatory variables. Finally, ε is the error term in the model.

To eliminated the effect of the asymmetric distributions (scores, dollars, number) the equation (1) was transformed into a logarithmic form. The empirical model to be estimated is presented as follows:

$$\ln(GU_t) = \alpha_0 + \alpha_1 \ln(ED_t) + \alpha_2 \ln(GDP_t) + \varepsilon_t \quad t = 1, \dots, T \quad (2)$$

where: (\ln) denotes natural logarithms. Three academics degree was considered, such as: bachelor degree (BD), higher diploma/ Master degree (MD), and doctorate degree (D). The model was estimated degree-by-degree using standard ordinary least squares (OLS).

The used data consists of three academic degrees based on annual data of labor force survey of the General Authority for Statistics in Saudi Arabia. The economic diversification was measured by the economic diversification index, which is published by the [International Monetary Fund \(2016\)](#).

4. Empirical results

The authors examine the relationship between unemployed graduates and ED index, GDP for three higher education status using STATA for the period 2005–2016. The Tables below contain the estimating results of equation 2.

The results in [Table 1](#) enable us to draw the interactions between UBD and both of ED and DGP. The empirical results show a negative and significant relationship between the explanatory variables and the UDB. The lower value (under 0.05) of p-value indicates that UDB is statistically affected by ED. The real GDP has a significant effect on the UBD at level of 5 per cent.

Table 1: Regression results dependent variable:
Unemployed Bachelor Degree, Ln(UBD)

Variables	Coefficient	Standard Error	P> t
constant	24.76182***	2.386261	0.000
Ln(ED)	-9.851807***	3.984513	0.000
Ln(GDP)	-0.1673893**	0.0688655	0.019
R ²	0.2129		

(***), (**) indicate that the parameter is statistically significant at levels of 1%, and 5%. Source: Author' calculation

The results in Table 2 show the interactions between UMD and both of ED and DGP. The empirical results show a positive and significant relationship between ED and the UMB. The p-value (under 0.05) indicates that UMD is statistically affected by ED. The real GDP has a negative and significant effect on the UMD at level of 5 per cent.

Table 2: Regression results dependent variable:
Unemployed Master Degree, Ln(UMD)

Variables	Coefficient	Standard Error	P> t
constant	-3.822285***	1.356372	0.005
Ln(ED)	18.99145***	2.264833	0.000
Ln(GDP)	-0.3276472**	0.1444516	0.028
R ²	0.1074		

(***), (**) indicate that the parameter is statistically significant at levels of 1%, and 5%. Source: Author' calculation

Table 3 shows the interactions between UDD and both of ED and DGP. It shows a positive and significant relationship between the two explanatory variables and the UDB. The p-value (under 0.05) indicates that UDD is statistically affected by ED. The real GDP has a less significant effect on the UDB; it is statically significant at level of 10 per cent.

Table 3: Regression results dependent variable:
Unemployed Doctorate Degree, Ln(UDD)

Variables	Coefficient	Standard Error	P> t
constant	3.588956***	1.102879	0.002
Ln(ED)	4.993844***	1.841557	0.009
Ln(GDP)	0.0224866*	0.011321	0.053
R ²	0.1439		

(***), (*) indicate that the parameter is statistically significant at levels of 1%, and 10%. Source: Author' calculation

5. Conclusion

The literature approved that economic diversification is becoming an important element in reducing economic risks. Economic diversification pushes the economy of accretion country to a less concentration on one resource. Besides that, countries try to diversify their economies for achieving sustainable economic growth. Governments are argue to provide all the appropriate conditions to diversify their economies to contribute to the economic stability through diversification of local production, creating new job opportunities, and raising total factor productivity.

The paper focuses mainly on the role of economic diversification in the graduates' employment. The authors expect that economic diversification have a positive impact on job diversity and graduates' employment. The study dealt in particularly with the case of Saudi Arabia. Results show that ED variable is

statistically significant for the graduates. However; a negative value appeared for the bachelor degree graduates. This value confirms that economic diversification in the Saudi Arabia has not reached to a significant level which can change economic activities map and accommodate a large number of the bachelor degree graduates. Given the negative and significant impact of economic diversification on the employment of bachelor's degree graduates, Saudi Arabia is argued upon to diversify its economy so as to reduce unemployment rate among bachelor degree graduates.

The study makes a significant contribution in understanding the impact of economic diversification on creating new job opportunities and to reduce graduates unemployment. The findings confirm that the economic diversification is essential for flexibility in recruiting competent individuals.

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Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

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