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The Effect of Entrepreneurship on the Economic Growth in Palestine

تأثير الريادة على النمو الاقتصادي في فلسطين

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الملخص:

تعتبر الزيادة المستمرة في ارتفاع مستويات البطالة في الأراضي الفلسطينية العامل المحوري الذي دقَ ناقوس الخطر ، لذا لا بد من ضرورة اقتراح وتنفيذ السياسات الاقتصادية الملائمة من أجل دفع عجلة الاقتصاد الفلسطيني إلى الأمام من خلال المساهمة في تخفيض مؤشرات البطالة وتحقيق التنمية الاقتصادية المستدامة.

إلا أن تحقيق التنمية الاقتصادية المستدامة في الاقتصاد الفلسطيني يواجه العديد من التحديات المتمثلة في صعوبة الحركة، وعدم توفر السيادة الكاملة على الأرض للحكومة الفلسطينية، والزيادة المطردة في أعداد المستوطنات على الأراضي الفلسطينية؛ مما انعكس سلبا على القطاعين الصناعي والزراعي، وجعل الأنظار تتجه نحو الاستثمار بالإنسان ليكون الفرد هو المحرك المحوري في العجلة الاقتصادية.

ففي شهر يوليو من سنة 2012 تم تشكيل المجلس الأعلى للإبداع والتميز لنشر ثقافة الإبداع والريادة وخلق جيل من المبدعين والرياديين من أجل المساهمة في التنمية الاقتصادية المستدامة. ومن أجل مساعدة المجلس لتحقيق أهدافه أنشئ صندوق دعم الإبداع والتميز.

تهدف هذه الدراسة إلى الإجابة عن السؤال الرئيسي: هل كان إنشاء المجلس الأعلى للإبداع والتميز خطوة صحيحة في الاتجاه الصحيح في قدرته على زيادة أعداد الرياديين في المجتمع الفلسطيني؟. وقد تم جمع بيانات من مركز الإحصاء الفلسطيني للفترة الزمنية من 1999– 2018 . تم استخدام تحليل السلاسل الزمنية وبناء نموذج اقتصاد قياسي من أجل معرفة إن كانت الريادة تأثر إيجابياً على النمو لاقتصادي. جاءت النتائج لتشير أن الريادة لا تسهم بالنمو الاقتصادي. أي أن دور المجلس الأعلى للإبداع والتميز هو المساعدة في خلق جيل من الرياديين يساهم إيجابياً بالنمو الاقتصادي في فلسطيني.

كلمات مفتاحية : المجلس الأعلى للإبداع والتميز ، الاقتصاد الفلسطيني ، الريادة ، التكامل المشترك.

Abstract:

The rising unemployment rate in the Palestinian Territories was a clear indication of the urgency to propose and implement the suitable policy that would enhance the economy, lowering the unemployment rate, and achieving a sustainable economic development. Nonetheless, achieving a sustainable economic development in Palestine faces a number of challenges; the difficulty of movement, the increase in the number of Israeli settlements in the Palestinian Territories; and the lack of sovereignty of the Palestinian government on the ground. These issues have a tremendous negative effect on both the agricultural and industrial sectors. Consequently, policy makers directed their efforts towards the investment in humans. Therefore, on July 2012, the Higher Council for Innovation and Excellence (HCIE) was created. In addition, the Innovation and Excellence Support Fund (IESF) was developed to aid HCIE in creating a generation of entrepreneurs and instituting the culture of innovation and entrepreneurship, which will lead to sustainable economic development. The purpose of this paper is to answer the question of whether the creation of the HCIE was the right step in the right direction. The data was collected from the Palestinian Central Bureau of Statistics for the period 1999-2018. The time series analysis was used to determine whether the number of entrepreneurs has a positive effect on economic growth. Our developed econometric model indicated that entrepreneurship is not contributing to economic growth. Therefore, HCIE will play the role of aiding entrepreneurs in contributing positively to economic growth.

Keywords: Co-integration, Entrepreneurs, Higher Council for Innovation and Excellence, Palestinian Economy.

Introduction

The rising unemployment rate in the Palestinian Territories- where the unemployment rate reached 30.8 percent in 2018 (Research Department, 2018) -indicated the urgency to implement an immediate policy that would tackle the lack of job creation. It is hoped that this policy would neutralize the unemployment's negative impact on the GDP per capita in Palestine (Samarah, W. 2017). Consequently, this would reduce the unemployment rate and achieve a sustainable economic development. Nevertheless, achieving a sustainable economic development in the Palestinian territories faces a number of

challenges. Among these are the difficulty of movement, the increasing number of Israeli settlements in the West Bank and Jerusalem, and the lack of sovereignty of the Palestinian Government on the ground.

The settlements affect negatively the Palestinian agricultural sector, where the amount of land that can be used by Palestinians for agriculture is constantly decreasing. In addition, the complete control of the water resources by the Israelis in the Palestinian territories, due to the existence of the settlements, affects negatively the agricultural sector. The manufacturing sector is also limited by the expansion of the settlements, which exist in locations that are strategic for manufacturing sites. For example, settlements are built along the Green Line, which is strategic to industrial zones as it is close to both, Israeli and Palestinian markets and seaports (Atrash, 2014).

Thus, both the agricultural and manufacturing sectors are shrinking over time. In 1994, the agricultural, manufacturing, and service sectors formed 11.7%, 19.3 % and 29.5 % of the Palestinian GDP, respectively. Meanwhile in 2016, the agricultural, manufacturing, and service sectors formed 2.9 %, 11 %, and 20.6 % of the GDP, respectively (Research Department, 2017). The service sector constituted the largest share of the Palestinian economy. Table 1 summarizes the different economic sectors in the Palestinian economy.

Table 1.

Value Added by Economic Activities for the Palestinian Economy for Years, 1994 and 2016, at constant prices with 2004 base year.

Economic Activity	1994	2016
Agriculture and fishing	361.2	236.6
Mining and quarrying	23.8	28.4
Manufacturing	593.5	887.2
Electricity, gas, steam, and air conditioning supply	41.3	123.4
Water supply, sewerage, waste management and remediation	47.3	75.5
Construction	218.7	601.1
Wholesale and retail trade, repair of motor vehicles and motorcycles	476.2	1383.9
Transportation and storage	147.1	180.1
Financial and insurance activities	30.5	320.7
Information and communication services	3	443.3
Services	907.3	1652.5
Public administration and defense	225.9	1034.1
Household with employed persons	4	4

Source: Palestine Monetary Authority (2016). Website: www.pma.ps

Due to all the reasons mentioned above, policy makers directed their efforts to invest in the Palestinian human capital. Therefore, on July 2012, the Higher Council for Innovation and Excellence (HCIE) was formed with a vision of creating a generation of entrepreneurs and instituting the culture of innovation and entrepreneurship, which will eventually lead to sustainable economic development. To aid its mission, the Innovation and Excellence Support Fund (IESF) was created.

The purpose of this paper is to answer the question whether the creation of the HCIE was the right step in the right direction. We will answer this question by using time series analysis and developing an econometric model to investigate whether the number of entrepreneurs is contributing positively to the economic growth. This is important to investigate, because we are interested in determining whether entrepreneurship is playing a crucial role in pushing the Palestinian economy forward. If this is not the case, then the creation of the HCIE would be crucial in aiding entrepreneurs to contribute positively to the economic growth.

The HCIE is directly affiliated to the President's office. It is aimed at promoting the culture of innovative among Palestinians, especially the youth, strengthening the innovative systems in Palestine, and establishing effective channels with Palestinians in Diaspora.

In an effort to strengthen and support entrepreneurs, the HCIE formed the Palestinian Networks for Innovators & Entrepreneurs. This network represents the Palestinian innovators and entrepreneurs in an administrative body. Its aim is to reflect the needs and aspirations of its innovators (Higher Council for Innovation and Excellence, 2019).

The HCIL had also created the Innovation and Excellence Support Fund (IESF). It is a public venture capital for innovative and entrepreneurial projects. The fund provides resources and finances solutions for creative projects, starting from the prototype stage to the formation of a start-up; establishes a specialized scientific incubators and technological parks; and supports applied research aimed at the development of innovative ideas and projects (Higher Council for Innovation and Excellence, 2019).

The table below shows the numbers of entrepreneurs present in the Palestinian economy and the real GDP per capita –measured at constant prices with 2004 base year- since the year 2000 to 2017.

Table 2.

Real GDP per Capita at Constant Prices with 2015 as Base year, Labor, Capital and the Number of Entrepreneurs Aged 15 Years and above in Palestine for 1999 - 2018

Year	Real GDP Per Capita ($)	Number of Entrepreneurs	Labor (Thousands)	Capital ($ Millions)
1999	2,830.2	195,300	667.3	1,831.3
2000	2,506.5	142,900	667.0	1,358.9
2001	2,208.0	142,600	642.0	1,184.2
2002	1,877.6	140,900	657.0	930.5
2003	2,080.1	172,500	722.0	1,143.0
2004	2,229.6	171,300	752.0	1,151.5
2005	2,396.0	186,100	789.0	1,241.3
2006	2,233.0	191,500	834.0	1,155.1
2007	2,308.4	196,100	882.0	1,204.9
2008	2,379.1	170,800	908.0	1,371.9
2009	2,511.5	181,900	951.0	1,504.8
2010	2,637.3	186,700	976.0	1,921.5
2011	2,877.1	208,500	1,059.0	1,863.8
2012	2,967.5	208,100	1,114.0	2,378.5
2013	2,944.0	214,900	1,156.0	2,707.3
2014	2,852.4	231,400	1,255.0	2,415.0
2015	2,863.9	234,400	1,299.6	2,677.4
2016	2,922.9	244,800	1,339.3	2,827.0
2017	3,072.4	237,200	1,374.6	3,305.6
2018	3,021.4	248,800	1,384.0	3,536.0

Source: Palestinian Central Bureau of Statistics, Website ww.pcbs.gov.ps

Literature Review

A considerable amount of literature on economy was devoted to the role of entrepreneurship in the economy. Let us start with summarizing the role of entrepreneurship within the economic growth process through a list of pros and cons. **Entrepreneurs can contribute positively to economic growth in the following manner:**

1. Boost the economy by introducing innovative products, services, and technologies.
2. Force firms to become more competitive as they continue to enter into existing markets.
3. As entrepreneurs continue to enter into existing and new markets, they create jobs in both, on the short and long run.
4. Entrepreneurial activities contribute positively to the productivity of firms and economies.
5. Increase the pace of structural changes by replacing existing firms.

Nonetheless, entrepreneurship has the following disadvantages:

1. A few people have the drive and ability to become entrepreneurs.
2. Given the fact that entrepreneurs take chances and risks, the probability of them not succeeding is high. As a result, the costs are usually transferred to the taxpayers.
3. The entrepreneur's nature –the high probability of shutting down existing firms- might lead to a high number of layoffs in the medium term.

4. The high level of self-employment is not necessary a good indicator. (Kritikos, 2014)

Nonetheless, many studies had indicated that entrepreneurship acts as a positive contributor to economic growth. Thus, improving the wellbeing of an economy. Acs argued that the role played by small businesses is vital, where it acts an agent for change to actively innovate and create new jobs (Acs, 1992). Carree and Thurik conducted a study on the thirteen European countries, concluding that industries that had a greater share of small enterprises had better growth rates (Carree & Thurik, 1998).

Deli (2011) studied the importance of entrepreneurs– especially small firms effect- in reducing unemployment and the opportunities they have in the state of Florida. The study adapted the descriptive analysis method and 32,335 surveys were distributed to a random sample of unemployed individuals, in addition to interviews. The results showed that unemployment affects entrepreneurs of small size enterprises; the contribution of small firms in creating job opportunities is larger than that of large firms; and an increase in the unemployment rate in a society will result in an increase in the number of entrepreneurs, especially in small firms (Deli, 2011).

Hoppe (2016) provided a historic perspective and an overview of policy and practice affecting the entrepreneurship education with a special focus on recent development in the Swedish education system. The paper sought to manifest an alternative system to the traditional entrepreneurial college educational system. However, it is too early to evaluate the implementation of this policy in Sweden

demographic factors, such as age, education level, and experience, as well as environmental factors, such as marketing, technology, infrastructure, governance, and policies, play a role in the success of entrepreneurs of small and medium sized enterprises (Hoppe, 2016).

Due to the crucial and vital role played by entrepreneurs in the economy, a Global Entrepreneurship Monitor (GEM) was established. This institution measures a country's level of entrepreneurial activity rates, provides a class-country analysis of entrepreneurial related activities, and finally identifies policies encouraging entrepreneurs. These indicators are used to explore the different dimensions of entrepreneurship on the Gross National Income (GNI), Gross Domestic Product (GDP), and the unemployment rates for eleven selected countries in the Middle East and North African (MENA) region. These countries are, Algeria, Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates and Yemen. Hence, the effect of entrepreneurs on economic growth and unemployment is studied. It was found that the Established Business Ownership Rate and Total Early-stage Entrepreneurial Activity for Male Working Age Population negatively affect the GNI and GDP. However, the Perceived Capabilities and the Improvement-Driven Opportunity Entrepreneurial Activity had a positive effect on GNI and GDP (Saigh & Ben Zaid, 2015).

To aid the establishment of a positive effect between entrepreneurship and economic growth, an institution should be created to help entrepreneurs to overcome logistic and financial challenges. As in the case of Jordan, where one of the major challenges that entrepreneurs face is the lack of funding and financing channels (Saymeh & Abu Sabha, 2014).

The Palestine Economic Policy Research Institute (MAS) launched the 2012 edition of the GEM. The report found that in 2012 approximately 10% of Palestinian population, aged 18-64, were involved in starting or running a business at some stage during the previous 42 months. When compared to other percentages, such as Egypt 8.8 % and Algeria 7.8 %, the Palestinian territories –with 10% - have a good percentage. The report also indicated that entrepreneurship is one of the key drivers of the Palestinian economy, and entrepreneurs play a crucial role in generating employment opportunities. Eventually, the report indicated that approximately 77 % of the Palestinian labor force was directly related to the development of the entrepreneurial activities (Palestine Economic Policy Research Institute , 2013).

A different story is asserted when looking at the high unemployment rate among the Palestinian youth. The youth, at their early careers, generally do not desire to take risks and prefer becoming employees, because they are seeking a steady and stable income. In addition, the higher education institutions further stresses the idea of income stability and steadiness. This is due to the universities not promoting the skills of innovation and risk taking among graduates. There is also a gap between higher education institutions and the market demands (Maddallah & Al-Ajlah, 2012).

The Israeli occupation and its policies act as a major obstacle and an additional challenge to entrepreneurs in Palestine. Israel does not want to grant Palestinians their independence and total sovereignty over their land. Hence, starting a business requires the entrepreneur to play by the rules and regulations of both the Israeli government and the Palestinian government. This adds to the burdens of entrepreneurs in the Palestinian territories (Maddallah & Al-Ajlah, 2012).

Raslan & Abdel Karim (2011) had a pessimistic point of view given the challenges faced by the Palestinian entrepreneurs. However, these conditions improved considerably.

A paper conducted by Sabella, Farraj, and Burbar studied the relationship between entrepreneurship and economic growth in West Bank of Palestine. The paper examined tried to capture the effect of the checkpoints and foreign aid on the relationship. It adapted different statistical methods to study the effect of entrepreneurship on GDP and unemployment. The paper found that entrepreneurship had no significant effect on economic growth in the West Bank (Sabella, Farraj, & Burbar, 2014).

This paper will add to the limited literature investigating the effect of entrepreneurship on the economic growth in Palestine. It will also shed light on the establishment of HCIE and the important role it should play in assisting the Palestinian entrepreneurs.

The Palestinian Economy and Entrepreneurs

In 2016, the Palestinian economy was described as a small and open economy. It is characterized as being a family oriented economy, where the majority of the establishments are medium, small, and micro economic. These establishments are known as facility establishments. They usually have a simple management nature, and utilize traditional and unsophisticated technological and production techniques. Most of the establishments operate in the production sector in order to produce consumer goods (National Expert Optimum for Consultations and Training, 2011, p. 8).

The Palestinian economy is fortunate to be based on medium, small, and micro sized businesses. Over the past decades, the world economy had shifted from large to small size businesses in the manufacturing sector. This is due to two main reasons, the first deals with the fundamental changes in the world economy from the 1970s onwards. These changes related to the intensification of the global competition, the increase in the degree of uncertainty throughout the globe, and the growth in the market fragmentations. The second reason deals with the nature of the technological progression. The flexible automation resulted in a shift from large size firms to smaller ones (Carree & Thurik, 2003, p. 439).

Nonetheless, some argued "that the shift away from large firms is not confined to manufacturing industries" (Carree & Thurik, 2003, p. 439). **This shift occurred due to four reasons:**

1. The increase in the labor supply resulting in a decrease in real wages. This was associated with an increase in the level of education.
2. The alteration and shift in consumer's tastes.
3. The decrease in the regulations causing easier entry into markets.
4. The world is experiencing creative destruction.

This shift to small business will result in an increase in the role and importance of entrepreneurs, instigate routes of innovations, stimulate changes in the industrial dynamics, and create jobs (Carree & Thurik, 2003, p. 439). The word entrepreneurships is formally defined as

follows, "Entrepreneurship is the manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations to perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product-market combinations), and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions" (Carree & Thurik, 2003, p. 441). Thus, small firms are the perfect channels for individuals to demonstrate their entrepreneurial ambitions.

Thus, the fact that the Palestinian economy operates through medium, small, and micro sized establishments allows entrepreneurs to play a more crucial role in stimulating the economy.

This paper will adopt a more regressed approach in investigating the link between entrepreneurs and economic growth in Palestine.

Methodology

This section will develop a model that demonstrates the cause and effect relationship between entrepreneurship and economic growth in Palestine. We will start our analysis with the Cobb-Douglas production function represented by the following equation:

Where Y is the output, A is a parameter that represents the effect of factors other than capital and labor on output, K is capital stock, $0<\alpha<1$, $0<\beta<1$ and L is labor. In the case of the Cobb-Douglas, $\alpha + \beta = 1$ there is a constant return to scale. Meanwhile, if $\alpha + \beta > 1$ there is an increasing returns to scale, and if $\alpha + \beta < 1$, we have a decreasing returns to scale (Quirk, 1987, p. 151).

The parameter A is the total factor productivity (TFP); it is through this parameter that an entrepreneur can impact output. Thus, entrepreneurs will spur technological advances and innovations, which will shift the TFP upwards (Rivera-Batiz, 2002, p. 252).

Economists traditionally associate changes in technology and innovation with changes in A. Nevertheless, this coefficient also reflects changes in factors such as wars, ethnic conflict, occupation, natural disasters, etc. (Rivera-Batiz, 2002, p. 253)

As a result, we will add the ENTRE variable that represents the number of entrepreneurs in Palestine and we will use the GDP per capita represented by the variable Y to measure the level of economic growth. We will transform the Cobb Douglas production function for Palestine into a linear function by taking the log of both sides, resulting in the following linear function:

$$\log Y=\log A+\alpha \log K+\beta \log L$$

That is, log A is a function of ENTRE:

$$\text{Log } A = f(\text{ENTRE})$$

Our econometric model is then given by the following equation:

$$\log Y=\beta_0+\beta_1 \log k+\beta_2 \log L+\beta_3 \text{ ENTRE} + E$$

Where βs are the parameters to be estimated and ε represents the random error term.

We will use the time series analysis to estimate our econometric model. In the time series analysis, the regressors are stochastic and the disturbances are autocorrelated.

The Unit Root Test determines the stationary of a variable. Assume y is an ARMA (pique) processes that are polynomials of a lag operators L, then the model for y is written as follows:

$$y_t = \beta_1 y_{t-1} +\ldots+ \beta_p y_{t-p}+ \varepsilon_t + \theta_1\varepsilon_{t-1} +\ldots+ \theta_q\varepsilon_{t-q}$$

To determine the stationary of a series we are interested in the roots of AR polynomial β (L). The modulus of the root are calculated as $\lambda=a\pm bi$. The modulus is equal to the $(a^2+b^2)^{1/2}$. Nonetheless, if λ is real, then b = 0 and the modulus is equal to the absolute value of a. The Unit Root Rule for stationary states that if the modulus of any root of $\beta(L) \leq 1$ then the series is non-stationary. Thus, for the series to be stationary all the roots of β(L) must lie outside the unit root circle in the complex plane (Greene, 1995, p.556). In this paper, we are interested in the first difference, the growth rate of both the GDP per capita for Palestine and the number of entrepreneurs. The GDP per capita will be used to measure the economic growth in Palestine.

After testing whether the variables are

stationary, we will investigate the existence of a long-run relationship between the two variables, do the two variables drift together? This relationship is distinguished from the short-term dynamics that is measured by the relationship between the deviations of y_t from its long-term trend and deviations of x_t from its long-term trend. The cointegration test does not determine the direction of the causality (Greene, 1995, p.567). Hence, we are interested in whether the growth rate in GDP per capita is cointegrated with the growth rate in the number of entrepreneurs in Palestine.

Then we are interested to know whether one economic variable can assist in forecasting another economic variable. Thus, can we conclude that the growth rate in the number of entrepreneurs cause the growth rate in the Palestine GDP per capita? We will answer this question by the method used by Granger (1969) and popularized by Sims (1972). Granger used F-tests to test for causality. He tested whether lagged information on a variable Y provides any statistically significant information regarding another variable X in the presence of lagged X (SAS Support).

The Fully Modified Least Squares regression method (FM-OLS) was developed to determine the optimal estimates of cointegrated regressions. Thus, the Least Squares method was modified to take into account the serial correlation effects and the endogenity of regressors, resulting from the existence of a cointegrated relationship (Phillips, 1995, p.1023). We will run the FMOLS to estimate our econometric model.

Results

The data was collected from the Palestinian Central Bureau of Statistics (PCBS), where the data covered the period from 1999 to 2018. Eviews 10 was used to conduct the different statistical analysis. We will use the GDP per capita (Y) to measure economic growth, number of entrepreneurs (ENTRE) to measure the entrepreneurship activities, amount of capital in USD (K), and number of workers (L). The unit root test was performed to determine the stationary of the variables at the first difference. We will start by testing the number of entrepreneurs (ENTRE) at the first difference.

H_o: The rate of change of ENTRE has a unit root

H_A: The rate of change of ENTRE has no unit root

Using $\alpha = 0.05$ and the p-value of the t-test for the Augmented Dickey-Fuller test is 0.0017 – thus $\alpha >$ p-value, we reject the null hypothesis and thus the rate of change for the number of entrepreneurs has no unit root at lag length of 0. We then repeat this test for the rest of the variables and the results are shown below:

Table 3.

Augmented Dickey Fuller (ADF) test results

Variable Name	Unit Root
ENTRE	No Unit Root at 1st difference
Log(K)	No Unit Root at 1st difference
Log(L)	No Unit Root at 1st difference
Log(Y)	No Unit Root at 1st difference

After having the individual variables as unit root free, we test for possible long term relationships among variables using cointegration technique in the spirit of Johansen. Thus, we will have the results in the table below.

Table 4.

Bivariate Johansen Cointegration test results

Variables	Nos. of Cointegrating relationship
Log(Y), ENTRE	2
Log(Y), Log(K)	2
Log(Y), Log(L)	2

The Pairwise Granger Causality Test was used to determine the direction of the causality relationship between the Log(Y) and ENTRE; unfortunately there was no causality between the variables as shown in the table below.

Table 5.

Results of Granger Causality Tests

Variables	Causality (lag)	Causality (direction)
ENTRE and Log(Y)	1	No
ENTRE and Log(Y)	2	No
ENTRE and Log(Y)	3	No
ENTRE and Log(Y)	4	No

To estimate our econometric model we use the FMOLS. Using the Eviews software, the Durbin-Watson test statistic value was 1.84 for the regression model. From the table we find that dL is 1.100 and dU is 1.537. Since the test statistic 1.84 is greater than 1.537 (dU), we fail to reject the null hypothesis of non-autocorrelated errors.

Now we carry out the t-test, using $\alpha = 0.05$ and the p-value of the t-test is 0.0118 for $\beta 0$ –thus $\alpha >$ p-value. We reject the null hypothesis and thus the beta is significant. The p-value for the t-test for $\beta 1$, $\beta 2$, and $\beta 3$ is 0.0003, 0.0388, and 0.6546 –thus $\alpha >$ p-value for $\beta 1$ and $\beta 2$. We reject the null hypothesis and thus the betas are significant. As for $\beta 3$ $\alpha <$ p-value, and thus we fail to reject the null hypothesis and the beta is not significant. Hence, we have the following model:

$$\log Y = -0.04 + 0.34 \log K + 0.85 \log L$$

This model has an R^2 of 0.6843. Thus, 68.43% of the variations in the output are explained by the model. This is considered a good fit; the data is a good fit for the model.

Conclusion

Our time series analysis asserted that entrepreneurship in the case of Palestine is not causing economic growth. This was demonstrated by both the Granger causality test and the FMOLS. The FMOLS regression model indicated that the number of entrepreneurs is insignificant to economic growth, i.e. entrepreneurship is not promoting economic growth in Palestine. This result supports the findings of Sabella, Farraj, and Burbar (2014). However, according to the econometric model 68.43 % of economic growth is generated from labor and capital. Nonetheless, in case of Palestine, foreign aid plays a major role in the economic growth (Samarah W. A., 2017). This makes the Palestinian economy heavily dependent on outside players. This is why we need to aid the entrepreneurs in contributing positively to economic growth in Palestine. This role is best played by the HCIE, where it will act as an agent in order to create a positive cause and effect relationship between entrepreneurship and economic growth. The HCIE was able to assist in launching a number of start-ups. **Some of these start-ups include:**

1. Noninvasive Medical Devices (NIMD), where this start up was based on an invention of two Palestinian physicians. They were able to use Nano-technology for the creation of a cure for breast cancer.
2. Circle out, where the HCIE contributed 10,000 USD to the establishment of the company, which was based on a Palestinian invention, aids in the utilization of smart devices.
3. It granted 10,060 USD for a startup that produced innovative software that involved touch screen technology.

The above examples indicate and demonstrate the HCIE has already started the process of pumping government money into the private sector to fund different entrepreneurship projects that are based on competitive innovations. It also started to promote and fund activities that will contribute to the creation of a generation of entrepreneurs that are hoped to contribute significantly to the sustainable economic development of the semi-independent Palestinian economy. We finally conclude that the creation of HCIE was the right step in the right direction.

Recommendations

The following recommendations are given:

1. The Palestinian government should increase the HCIE's budget. This will increase its capability to fund more projects and thus making the Palestinian economy more independent from foreign players.
2. The HCIE should build a state of the art headquarter that includes labs which are equipped with the latest technologies, to allow entrepreneurs to conduct advanced research and experiments.

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