The Palestinian Economy and the Arab Spring

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Abstract

The purpose of this paper is to assess the situation of the Palestinian economy through looking at macroeconomic variables in order to determine its readiness to host the Arab Spring. The Palestinian economy was assessed through looking at the GDP per capita, unemployment, inflation and percentage of Palestinians having a Bachelor's Degree or above. An econometric model was developed to evaluate the effect of each of the 3 macroeconomic variables on the GDP per capita. The data was collected from the Palestinian Central Bureau of Statistics (PCBS) and the World Bank (WB) for the period of 2000 to 2015. The econometric analysis found that unemployment had a negative impact on the GDP per capita. Meanwhile, education had a positive effect on the GDP per capita. Finally, inflation was not significant. Thus the Palestinian Authority has to resolve it political issues and choose a more effective approaches to ending the Israeli occupation. This will allow it to build a stronger economy.

Keywords: Arab Spring, Palestinian Economy.

Introduction

On Wednesday, May 3rd of 2017, the two leaders stood side by side in the White House for a press conference. President Donald Trump –the president of the United States of America- and President Mahmoud Abbas –President of the State of Palestine. Mahmoud Abbas faces a number of challenges, most prominently the strong opposition from the rival party Hamas that controls the entire Gaza Strip. The Oslo accord had reached a stall mate, and President Abbas is hoping that President Trump will be able to push the peace process forward. Meanwhile, one of President Trump's main concerns in the Middle East is the war on the Islamic State in Iraq and Syria (ISIS). This is why during the press release President Trump mentioned the good coordination between the Israeli and Palestinian security forces and asserted that they are doing a good job.

Nonetheless, President Trump does not feel the pressures that President Abbas has, one a stagnant Peace process that till know failed in creating an independent Palestinian State and two is the continuous challenge for his leadership that can eventually claim the cause of Jerusalem and thus rally the Palestinian people behind that cause. How realistic are these two threats for President Abbas are one might argue? The collapse of three of the Arab regimes –Egypt, Tunisia, and Libya- and the ongoing war in Syria before the beginning of the Arab Spring one had never expected. Is the Palestinian situation similar to that of the neighboring Arab countries?

The economy had played a crucial and vital role in the Arab Spring, and one might argue it is the main factor that drove people to the streets The purpose of this paper is to assess the effects of the different macroeconomic indicators on the possibility of the spread of the Arab Spring to Palestine. Would the economic situation of the Palestinian people drive them to the streets and the Palestinian Authority (PA) would lose control and start a third Intifada against the Israeli occupier?

The table below shows a few of the macroeconomic variables that can summarize the state of the Palestinian economically.

Table 1: Macroeconomic Variables for Palestine

Year	GDP Per Capita	Unemployment	Inflation	Percentage of Palestinians with a Bachelors Degree or above
2000	3331.4	14.3	2.8	5.6
2001	3107	25.3	1.22	6.5
2002	3031.5	31.2	5.71	6.4
2003	3300.1	25.5	4.40	7.1
2004	3592.7	26.8	3.00	7.3
2005	4010.1	23.5	4.11	7.5
2006	3844.4	23.7	3.84	7.8
2007	3780.7	21.7	1.86	8.4
2008	3423.6	26.6	9.89	8.8
2009	4053	24.5	2.75	10.1
2010	4078.5	23.7	3.75	10.4
2011	4356.3	20.9	2.88	11.3
2012	4931	23	2.78	11.7
2013	4655.8	23.4	1.72	12.1
2014	4544.2	26.9	1.73	12.5
2015	5010	25.9	1.43	13

Sources: Palestinian Central Bureau of Statistics (2015) Website www.pcbs.gov.ps and World Bank (2015) Website www.worldbank.org

We notice that in 2015, the percentage of people in Palestine aged 15 years and older who have a Bachelor's Degree or higher are approximately 15.4, with an unemployment rate of 25.9 percent.

Literature Review

There have been numerous analyses of the reasons for the Arab Spring and the rapid spread of these up-risings. The general consensus came to the realization that the true reasons for the Arab Spring are a combination of political, economic and social factors. " These can be divided into: a) structural, long-standing, underlying factors that led to a build-up of popular anger and frustration in Arab countries; and b) proximate, more immediate factors that transformed localized protests into nationwide movements" (Idris, 2016, p. 1). Among the structural factors were the rising unemployment rates and education. The increasing level of education, made people unwilling to work the low-skilled and low paying jobs that might be available. In addition, the rising unemployment was associated with rising price levels adding to the

complexity of the situation. In an attempt to fix the government's budget deficits, the government subsidies were slashed or cancelled on basic essential commodities, the availability of government jobs was reduced substantially, industries were privatized, and there was an increase in taxes. All these policies had resulted in rising inflation and economic impoverishments of the majority of people (Idris, 2016).

The high unemployment rate was a character of the North African countries prior to the Arab Spring, "The unemployment rate remained high in all the countries, averaging over 11 percent for the group" (Khan & Mezran, 2016, p. 3). In addition, the role of education was further emphasized, "We develop our argument by first presenting evidence by this expansion of the education in the Arab world was indeed matched with poor labor market prospects, and particularly so in the countries that have been at the heart of the protest wave" (Campante & Chor, 2012, p. 169). Thus the argument that the lack of economic opportunities to an increasingly educated population had aided in the understanding of regime instabilities such as that of the Arab Spring (Campante & Chor, 2012, p. 184) .

A large number of observers asserted that the authoritarian regimes were the main driving cause for the Arab Spring. Clearly, they have missed the true and vital reason that caused these popular revolts. In trying to uncover the true reason for these revolts we need to take a closer look at the life of the man who was the initial spark of the Arab Spring Mohammed Bouazizi. The 26 year old had a small business of selling fruits that belonged to the informal sector of the Tunisian economy. His primary concern was to feed his family. "He was not a political activist and he did not care about politics. In fact, he did not have time for it" (Martin, 2012, p. 94). So the harsh economic situation that came about was the major cause of the Arab Spring.

In this paper we will try to determine whether the Palestinian economy has the potential to host the Arab Spring? In an attempt to determine that, it is clear that the Palestinian economy is struggling with high unemployment rates and an increasingly educated population. The Palestinian economy is required to generate jobs to the educated youth. As a result, the Palestinian economy should benefit from the flee of foreign investment from the countries that experienced the Arab Spring and try to present itself as a good alternative to attract these fleeing foreign investments (Abu Jamea, 2013, p. 427). Success in doing that will strengthen the Palestinian economy and make people happier.

Mathematical Economic Model

The Euclidean spaces are examples of metric space. This is why we are interested in working in metric space. So let us define the following metric space:

> A set S, whose elements we will call points, is said to be a metric space if with any two points a and b of S there is associated a real number d(a,b), called the distance from a to b, such that

1. $d(a,b) > 0$ if $a \neq b$; $d(a,a) = 0$.
2. Symmetry, $d(a,b) = d(b,a)$.
3. Triangular inequality, $d(a,b) \leq d(a,r) + d(r,b)$ for any r belongs to S. (Rudin, 1976, p. 30)

"A function is defined as follows, "Consider two sets *A* and *B*, whose elements may be any objects whatsoever, and suppose that with each element *x* of *A* there is associated, in some manner, an element of *B*, which we denote by *f(x)*. Then *f* is said to be a *function* from *A* to *B* (or a *mapping* of *A* into *B*). The set *A* is called the *domain* of *f* (we also say *f* is defined on A), and the elements *f(x)* are called the *values* of *f*. The set of all the values of *f* is called the *range* of *f*." (Rudin, 1976, p.24). The definition of a function will now allow us to define a sequence. "By a *sequence*, we mean a function *f* defined on the set *J* of all positive integers. If $f(n)=x_n$" (Rudin, 1976, p.26), for n belong to J, we denote a sequence by x_n . The elements of a sequence are called the terms of the sequence."

(Rudin, 1976, p. 26)

We will define some terms, let S be a metric space and let all the elements and sets mentioned below are elements and subsets of S.

1. A neighborhood of a is a set $N_r(a)$ consisting of all b such that $d(a,b) < r$, for some $r > 0$. Where r is called the radius of $N_r(a)$.
2. A point b is a limit point of the set G if every neighborhood of b contains a point $a \neq b$ such that b belongs to G.
3. A set G is said to be closed if every limit point of G is a point of G.
4. A point a is an interior point of P if there is a neighborhood N of a such that N is a subset of P.
5. P is an open set of if every point of P is an interior point of P.

(Rudin, 1976, p.32).

In our case we will consider the GDP per capita (G) as a function of unemployment (U), inflation (I), and percentage of people having a Bachelor's Degree and above (E). The GDP per capita will be used as an indicator of how well the country is doing.

Let S be a metric space, and let G, U, I and E be subsets of S, where G, U, I and E are both closed and bounded. This is due to the simple fact that G, U, I, and E can have finite upper and lower bounds because there are limited and scarce factors of production.

Given that G is dependent on the U, I, and E, we won't to prove that G is a function of U, I, and E.

Prove:

Consider the variables G, U, I and E,
G is a function of U, I and E, in other words G (U, I, E).
Express U, I and E each as a decimal expressions of which it ends in a finite sequence.

Where each sequence has the same length. Thus

U = u1 u2 u3 ... un. u(n+1) u(n+2) ...
I = i1 i2 i3 ... in . i(n+1) i(n+2) ...

E= e1 e2 e3 ... en . e(n+1) e(n+2) ...

Now define G(U,I,E) to be z where
z = u1 i1 e1 u2 i2 e2 ... un in en . u(n+1) i(n+1) e(n+1) u(n+2) i(n+2) e(n+2)...

Now, could you obtain the same z from a different combination of (U,I,E)? No, because you can extract the decimal expression for U, I and E from z, so U, I and E are uniquely determined from z.

Then there exists two different n-tuples Z and Z' such that G(Z) = G(Z'), implies G(z1,…,zn).

This means that G is a function of U, I, and E because its values depend on the values of U, I and E.

Econometric Model

Given that we have proved that there is a functional relationship between GDP per capita and unemployment, inflation and education; we will have the following model:

$$G = U^{\alpha} I^{\beta} E^{\tau}$$

Where G is GDP per Capita; U is unemployment; I is inflation; E is percentage of people having a Bachelors degree or above; α, β and τ are integers having a value between -1 and 1. Clearly, this function indicates that there is some kind of functional relationship between these macroeconomic variables.

We will transform our power function into a linear function by taking the log of both sides, resulting in the following linear function:

$$logG = \alpha\, logU + \beta\, logI + \tau\, logE$$

The Least Square regression model will be used to estimate the functional relationship developed above for Palestine. Here we will use the Classical Regression Model represented by the equation:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \varepsilon$

Where Y is the dependent variable; α is the y intercept; X_1, X_2, X_n are the independent variables; β_1, β_2, and β_s are the coefficient of the X variables; ε is the error term (Greene, 1995, p. 170).

We will have the following econometric model:

$$logG = A + \alpha\, logU + \beta\, logI + \tau\, logE + \varepsilon$$

Results

The data was collected from the Palestinian Central Bureau of Statistics (PCBS) and World Bank (WB), where the data covered the years from 2000 to 2015. The Statistical Analysis System (SAS) was used to perform the different statistical analysis.

We will test whether the parameters are significant. Using $\alpha = 0.05$ and the p-value of the f-test from the SAS output is <0.0001 –thus $\alpha >$ p-value, we reject the null hypothesis. That is at least one of the betas in the model does not equal to zero and thus at least one of the betas is significant.

Now we carry out the t-test, using $\alpha = 0.05$ and the p-values of the t-tests are <0.0001, 0.0398 and <0.001 for β_0 , β_1 and β_2 – thus $\alpha >$ p-value for β_0 , β_1 and β_2 , we reject the null hypothesis and thus the betas are significant. Thus we have the following model:

$$logG = 7.72836 - 0.21754\ logU + 0.56363\ logE$$

This model has an R^2 of 0.8756, thus 87.56 percent of the variations in the output are explained by the model. This is considered a very good fit, the data is a very good fit for the model.

The Durbin-Watson had a value of 1.278 –from the SAS output, clearly this value falls above 0.738 and 1.253. Thus the test statistic value is greater than dU, we would not reject the null hypothesis of non-autocorrelation errors.

Our model indicates that an increase in the percentage change of unemployment level by one unit will result in a decrease in the percentage change of the GDP per capita by 0.22 units. Meanwhile, an increase in the percentage change of the percentage of Palestinians having a Bachelors Degree or above by one unit will result in an increase in the percentage change of GDP per capita by 0.56 unit. As for the inflation rate, our regression analysis had indicated that the inflation rate was not significant to the GDP per capita. Thus the variable was dropped from the model.

Conclusion

Our results had indicated that there is an inverse functional relationship between the percentage change in the level of unemployment and the percentage change in the GDP per capita. However, there is a positive functional relationship between the percentage change of the percentage of Bachelor's Degree or above holders and the GDP per capita. Nonetheless, the effect of unemployment was greater than the effect of education on the GDP per capita. However both effects were less than one –taking the absolute value of the unemployment effect. Thus a change of one percent of any of the mentioned two variables results in a change of less than one percent in the GDP per capita, i.e. the response of the GDP per capita to any of the changes in the other two variables is inelastic.

Meanwhile, the inflation rate in Palestine did not affect the GDP per capita. This made perfect sense, the inflation rate was more or less under control in Palestine. Although, due to the fact

that Palestine does not have its own currency. This makes Palestine constantly subjected to importing inflation from Israel. Nonetheless, the inflation rate was remained low.

Is the Palestinian economy ready to host the Arab Spring? The answer would be somewhat ready. Similar to other Arab states that experienced the Arab Spring, Palestine has a high unemployment rate associated with a continuous increase in the level of education. Nevertheless, Palestine has a unique situation, due to the continuous Israeli occupation. Israel continues to have a strong grip on the Palestinian economy, so the PA cannot be totally blamed for any economic hardships.

Is Israel acting as barrier to the spread of the Arab Spring into the Palestinian territories? Clearly, the answer is no. The Palestinians through the first and second Intifada had proven that they can revolt against the occupying power.

It is clear that the PA was able to maintain the satisfaction of the Palestinian people. This was not unique to the Palestinian case, "Saudi Arabia was able to quell the protests and maintain the 'authoritarian bargain'. Saudi Arabia even handed out billions of dollars to bolster other regimes under threat during the Arab Spring, e.g. Kuwait and Jordan" (Idris, 2016, p. 3). Nevertheless, the PA should not rely on its ability to quite the Palestinian street. It should resolve its differences with Hamas and pursue a more effective approach with Israel in order to end the occupation and build a stronger economy. An economy that will be able to create jobs and absorb the excess supply of the graduates.

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