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TOPIC:

**THE CONTRIBUTION OF ENTREPRENEURSHIP THROUGH CNAC
DISPOSITIVE IN REDUCING UNEMPLOYMENT RATE IN ALGERIA**
Case study of Entrepreneurs of Tlemcen

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INTRODUCTION:

From the important resources of GDP in Algeria is the Hydrocarbon GDP with a rate of 98% until the latest year 2012. From this latest point that we accept that hydrocarbon revenues create wealth for the Algerian government but cannot satisfy all needs of people to get work. For that and according to the different mechanisms to enhance the entrepreneurship:

- Where is the contribution of the entrepreneurship and entrepreneurs in the Algerian economy, because the Algerian authorities make large balance sheet to help them¹?

- Where is the fruits of the different mechanisms to enhance entrepreneurship and increase economic development by pushing the individual to create their own enterprises?

In a hand, Entrepreneurship is one of the important key element to recognize economic development. From the words of the president of the European Commission, Romano Prodi (2002), "increases in entrepreneurial activity tend to result in higher subsequent growth rates and a reduction of unemployment"². The entrepreneur is at the same time one of the most intriguing and one of the most elusive characters...in economic analysis. He has long been recognized as the apex of the hierarchy that determines the behavior of the firm and thereby bears a heavy responsibility for the vitality of the free enterprise society³. (Baumol, 1968, p.64)

From another hand, the labor market is one of the most important market that it affects the global economy directly through its instability and disequilibrium. Why? Because it contains the important, key productive for the enterprises that is labor force. For that, disequilibrium in this market push the unemployment to be high. This unemployment is an unexploited force that could bring more product and it could improve the global economy if it exploited in the good ways. Therefore, we find that there is different studies look for the policies and laws to equilibrate this market to get the maximum power of labor, and to improve the global economy.

Entrepreneurship is a source of economic growth and employment creation. Entrepreneurship domain touches an interesting place in the present economics and present news. As we found, the majority of governments in both developed and developing countries implement many policies to promote it. In different economies, we found that owner managers of small enterprises runs the majority of business in most countries. The aim of the creation of these enterprises is to provide specific goods and services that are ignored by the largest and big enterprises. In this point, we can look at the role of entrepreneur that it appears as generating

¹ "سياسة التشغيل في الجزائر بين الارقام و واقع الاحتجاجات" .mpg, قضايا و آراء (Algeria, March 22, 2013), www.imf.org.

² David B. Audretsch and A. Roy Thurik, "Capitalism and Democracy in the 21st Century: From the Managed to the Entrepreneurial Economy," *Journal of Evolutionary Economics*, 2000, sec. 10.

³ WILLIAM J. BAUMOL, "Entrepreneurship in Economic Theory" (1968): 64.

productivity that it gains from dynamic entry and exit, which in the end is spurs economic development. This comes about either by selection or competition:

- Selection: That mean replacing incumbent do satisfy consumer demand by entrants who are more efficient to offer better quality of products to satisfy the consumer needs.
- Competition: intensifying competition in a fixed market push the incumbent to provide new products with a cheap price or more innovated products.

From the whole number of entrepreneurs, there is a category of dynamics ones how pioneer market for:

- ✓ Innovative product,
- ✓ Creating jobs,
- ✓ Moreover, enhancing economic growth.

For example, four of the largest US companies by market capitalization in 1999 that are in the technology sector (Dell, Microsoft, MCI, and CISCO System) did not exist 20 years before⁴.

(Jovanovic, 2001)

After looking the situation of these four enterprises today, we can expect that from today's startups or new small firms, there are some ones how will grow to be big and giant future enterprises. As it happens for Innovation, wealth creation and industrial dynamism, Entrepreneurship also appears as one of the integral part of economic change and growth.

Entrepreneurship is an engine for growth , it gets many sides in different multi-disciplinary academic underpinning that are drawing from economic, finance, business studies, sociology, psychology and many other subjects. The mixture of these sides reflect the multidimensional nature of entrepreneurship that it contributes partly in the elusiveness of the entrepreneur (Baumol, 1968).

According to (Audretsch and Thurik, 2001), the new and small firms have emerged as the major vehicle for entrepreneurship to thrive⁵. The evidence of studying SME's is strongly supports the claim that very young and very small firms outperform their older counterparts in term of employment creation even when the older ones correct for their higher probabilities of

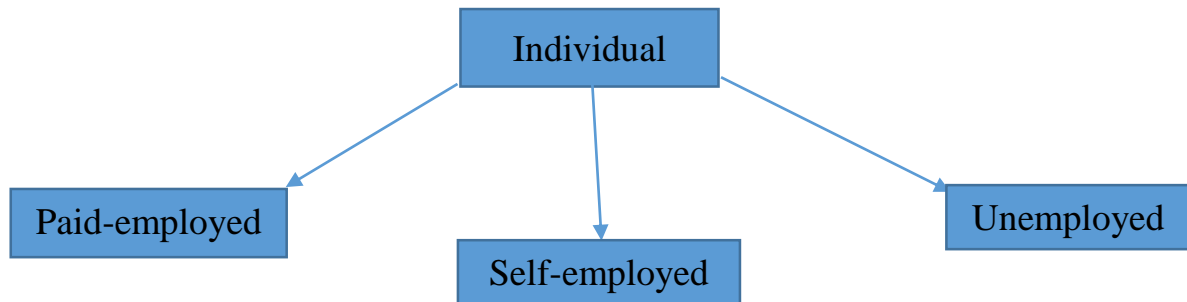
⁴ Boyan Jovanovic, "New Technology and The Small Firm," *Small Business Economics* 16, no. 1 (February 1, 2001): 53–55, doi:10.1023/A:1011132809150.

⁵ David B. Audretsch and A. Roy Thurik, "What Is New about the New Economy: Sources of Growth in the Managed and Entrepreneurial Economies," *What's New About the New Economy? Sources of Growth in the Managed and Entrepreneurial Economies*, October 2000.

exit⁶. In addition, many studies find that small firms grow faster rather than large firms. There for, in the macroeconomic level, there are a large presence of the small firm's contribution in the economic performance.

According to Knight's (1921) and (Stephan et al., 2013), the individual or potential worker choose to be between these three situations⁷:

Figure 1: The three situation of the individual according to Knight



Source: edited by the student according to (knight's, 1921) and (Stephan et al., 2013),

According to Thurik et al., The relationship between entrepreneurship and unemployment has posted a complex puzzle to scholars⁸. This puzzle related with different effects between unemployment and entrepreneurship because in a hand, the unemployment pushes the individual to become entrepreneur, in the same hand can become a key to increase unemployment in a cyclical relation between unemployment and entrepreneurship⁹ (Faria et al., 2009)

⁶ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?," *Journal of Business Venturing* 23, no. 6 (November 2008): 676, doi:10.1016/j.jbusvent.2008.01.007.

⁷ Frank H Knight, *Risk, Uncertainty, and Profit*, 1921.

⁸ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?"

⁹ João Ricardo Faria, Juan Carlos Cuestas, and Luis A. Gil-Alana, "Unemployment and Entrepreneurship: A Cyclical Relation?," *Economics Letters* 105, no. 3 (December 2009): 318–320, doi:10.1016/j.econlet.2009.09.004.

INTRODUCTION

In the table below, there are some previous research about the effect of entrepreneurship and unemployment:

Table 1: Different theoretical views about the effects between entrepreneurship and unemployment

Authors	The effect of entrepreneurship in unemployment
Lin et al. 1998 ¹⁰	+ (self-employment create employment and reduce unemployment)
Pfeiffer et al., 2000 ¹¹	+ Enterprises created by unemployed enhance in creating employment
Audretsch and Thurik 2000 ¹²	+ Low level of unemployment in countries with entrepreneurial economy.
Fritsch, M., Mueller, P., 2004 ¹³	+The new enterprises contribute in creating employment after 8 years from the creation
Thurik et al. (2008) ¹⁴	Unemployment pushes entrepreneurship, entrepreneurship reduces unemployment
Earle and Sakova, 2000 ¹⁵	Entrepreneur contributes in creating employment, so reducing unemployment

There was also a later econometric study about the determinants of unemployment in Algeria on the period 1980, 2009 edited by Dr. BOURICHE Lahcene¹⁶ in 2013. In the study, he fined a cointegration between unemployment and all of Gross National Expenditures, inflation, exchange rate and terms of trade.

¹⁰ Garnett Picot, Marilyn E. Manser, and Zhengxi Lin, "The Role of Self-Employment in Job Creation in Canada and the United States," 1998, <http://www.google.dz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC8QFjAA&url=http%3A%2F%2Fwww.cerforum.ca%2Fconferences%2F199809%2Fpapers%2Fcanus.pdf&ei=mjPIUf2ANsQu4ASskYDACw&usg=AFQjCNGJuKBeSSGnSzOtabWxD1YGT9alyw&sig2=04fPaQN0bRPEhK0OO1g-g&bvm=bv.48705608,d.bGE>.

¹¹ Friedhelm Pfeiffer and Frank Reize, *Business Start-Ups by the Unemployed - an Econometric Analysis Based on Firm Data*, ZEW Discussion Paper (ZEW - Zentrum für Europäische Wirtschaftsforschung / Center for European Economic Research, 1998), <http://ideas.repec.org/p/zbw/zewdip/9838.html>.

¹² David B. Audretsch and A. Roy Thurik, "Capitalism and Democracy in the 21st Century: From the Managed to the Entrepreneurial Economy."

¹³ Michael Fritsch and Pamela Mueller, *The Effects of New Business Formation on Regional Development over Time*, Papers on Entrepreneurship, Growth and Public Policy (Max Planck Institute of Economics, Entrepreneurship, Growth and Public Policy Group, July 2004), <http://econpapers.repec.org/paper/esiiepd/2004-36.htm>.

¹⁴ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?"

¹⁵ John S Earle and Zuzana Sakova, "Business Start-Ups or Disguised Unemployment? Evidence on the Character of Self-Employment from Transition Economies," *Labour Economics* 7, no. 5 (September 2000): 575–601, doi:10.1016/S0927-5371(00)00014-2.

¹⁶ BOURICHE Lahcène, "Les déterminants du chômage en Algérie : une analyse économétrique (1980-2009)" (doctoral thesis, University of Tlemcen, 2013), <http://dspace.univ-tlemcen.dz/>.

For that, our research turn around the main issue below:

The contribution of CNAC Entrepreneurship in the unemployment reduction in Algeria with a case study of entrepreneurs in Tlemcen.

With another meaning, the contribution of unemployed people who become entrepreneur in reducing unemployment.

Under this subject, we will discuss:

1. Different determinants of Entrepreneurship,
2. The different effects between entrepreneurship and unemployment;
3. The growth of Entrepreneurship and SME's in Algeria,
4. The historical evolution of unemployment in Algeria,

To answer the previous problematic, we should propose this hypothesis:

- There is a correlation in long term between the decrease in unemployment and growth in entrepreneurship through CNAC mechanism.

Difficulties in the research:

In the period of this research, we found different difficulties and obstacles, the matter that it makes us spending long time in it. From these obstacles:

- Difficulty to find suitable bibliography and references with our subject,
- Obstacles in the ways of getting data about all of: entrepreneurship, employment and unemployment for Algeria in general and Tlemcen as a subject of the empirical study.
- Difficulties related with the CNAC mechanism characterized in:
 - Difficulties in the acceptance of making the study for this mechanism,
 - Difficulties to get information related with the relation between people and CNAC workers,
 - The most difficult point is about data because it is professional secret,
 - Obstacles founded in the way of meeting the entrepreneurs for the interview.

CHAPTER ONE: LITERATURE REVIEW OF ENTREPRENEURSHIP

Introduction:

The entrepreneurship is one of the most important fields in the early studies according to its role in all sector. According to its important, it faces different changes because it is related with the human personality from a side, the social situation from another side and with economic from another side ... etc. Therefore, to give a global historical view about entrepreneurship, I started in this chapter by making comparison between agent economic and entrepreneur to clarify the right meaning of entrepreneur. After that, I mention some important definitions about entrepreneur and entrepreneurship in both sides (business and economic side). Then, I show some important theories about entrepreneur because it gets different theories according to the goals wanted to achieve. After that, I illustrate some important determinants of entrepreneurship according to the importance of each determinant. After, I move to present the importance of entrepreneurship. In the end, I make some titles as questions to get in our problematic.

1. Interaction between economy and entrepreneurship:

(Question: What economics adds to the study of entrepreneurship?).

The entrepreneurship is a thriving research field because as we said before, it get relations with all different academic sciences. Here are some notes present the comparison between economic and entrepreneur:

Table 2: The comparison between economic agent and entrepreneur

Economic	Entrepreneur
<p>Economic assumes that the agent know :</p> <ul style="list-style-type: none"> • The goods and services, • Prices of these goods and services, • The agent can optimism the resources with a simple mathematical rules. 	<p>The entrepreneur cannot optimize because:</p> <ul style="list-style-type: none"> • Cannot know the price of goods that it does not exist yet. • Therefore, it must use different methods as heuristics and idiosyncratic judgment.
<p>Economics entail the equilibrium analysis.</p>	<p>Entrepreneur is extremely the opposite of economic in this point because:</p> <ul style="list-style-type: none"> • Entrepreneur recognizes disequilibrium opportunities and exploits them. • The entrepreneur destroys the QUO status in a continuous development of disequilibrium state.
<p>Economic assumes perfect competition and information. However, in equilibrium profit, they are eliminated.</p>	<p>With motivation of profit, and imperfect information and competition. It can create entrepreneur and enhance them to possess new market power.</p>
<p>The economists have chosen to do not mention entrepreneur in their writes.</p>	<p>In reality, entrepreneurship is in the center of the economic growth process.</p>

Source: The Economics of Entrepreneurship¹⁷

Some economists would say that one manifestation of entrepreneurship is precisely entry by new firms to compete for profits with incumbents. Other manifestations and definitions of entrepreneurship are also possible, including those based on innovation, managing uncertainty and owning a business; these come well within economists’ ambit too¹⁸. (Bianchi and Henrekson, 2005).

Individuals do not have to become entrepreneurs, but they choose to do so when the incentives (not necessarily financial) are sufficiently favorable. Indeed, the whole idea of public policy towards entrepreneurship is premised on the notion that government interventions

¹⁷ SIMON C. PARKER, *the Economics of Entrepreneurship* (United States, 2009), 2, www.cambridge.org/9780521899604.

¹⁸ Milo Bianchi and Magnus Henrekson, *Is Neoclassical Economics Still Entrepreneurless?*, Working Paper Series in Economics and Finance (Stockholm School of Economics, 2005), <http://ideas.repec.org/p/hhs/hastef/0584.html>.

(through taxation, regulation, grants, etc.) affect entrepreneurs' incentives and thereby their behavior.

According to (Minniti and Lévesque, 2008, p. 603), they show that the role of economics is helping us to understand some question as:

- ◆ How can individual make decision?
- ◆ Why? and how they create an organization?
- ◆ What are the intended and unintended consequences of the decision on the both levels of the economy (i.e. micro-economic and macro-economic)?

Returning back, Economics also helps us to understand the entrepreneurship effect in the growth and the development of the society.

Economic analysis gives different knowledge to researchers and scholars and shows the roadmaps for persons as practitioners and policy makers¹⁹.

2. Different definitions (concepts, perceptions, terms) of entrepreneurship:

From the most ambiguous things for entrepreneurship is its definition.

Question: How can we define the Entrepreneur and Entrepreneurship?

There are no fixed terms for the entrepreneur and entrepreneurship, because as we discuss before that entrepreneurship get different sides in different sciences. For that, first task is to give definition for **Entrepreneurs and Entrepreneurship** and the main problem is:

There is no general agreement about the meaning of the both terms of **entrepreneur** and **entrepreneurship**.

The entrepreneurship can get different meaning and definitions as products of environment like provision of venture capital and an interesting growth in demand in the market, or personal attributes like risk taking propensity and need for achievement²⁰.

Some researchers give some definitions about the term of entrepreneur:

Some researchers identify entrepreneurs with the residual claimants such as small **business owners** or the **self-employed**.

Others,

Restrict that entrepreneur is the business owner who employ other workers.

Others again take with **Schumpeter's** definition that is entrepreneurship entail and continue the change from the introduction of shifting or transforming new paradigm to create an innovative product or achieve INNOVATION rather than particular occupation.

¹⁹ Maria Minniti and Moren Lévesque, "Recent Developments in the Economics of Entrepreneurship," *Journal of Business Venturing* 23, no. 6 (November 2008): 603–612, doi:10.1016/j.jbusvent.2008.01.001.

²⁰ E. Stam, "Entrepreneurship," in *International Encyclopedia of Human Geography*, ed. Editors-in-Chief: Rob Kitchin and Nigel Thrift (Oxford: Elsevier, 2009), 492–498, <http://www.sciencedirect.com/science/article/pii/B978008044910400153X>.

Other definitions turn around the Small employer, many researchers define the entrepreneur as the small employer who hire about one to four workers.²¹

2.1. Business definition of entrepreneur:

The entrepreneur in business studies is the person who ‘perceives an opportunity, and creates an organization to pursue it’²². (Bygrave and Hofer, 1991, p. 14)

From this definition, we can understand that the creation of new ventures is the essence or the center of entrepreneurship.

2.2. Economic definitions for entrepreneurship:

Economists use different terms about the meaning and the concept of entrepreneurship. Here are some of the most important terms of entrepreneurship:

- Term of business owners in industrial organization and macro-economy,
- Term of self-employed in labor and micro-economy.
- Term of small firms in industrial organization as working definition.

The majority if we cannot say that all of these definitions rely on the both aspect of entrepreneurship those are residual claimants and risk-taking aspect.

According to E. Stam, 2009²³, Entrepreneurship is defined as:

Entrepreneurship is the results of interactions between individuals’ attributes and the surrounding environment. There are many interesting definitions for the entrepreneur according to different authors. Such as, there is (F. Knight 1921) who define the entrepreneur as the person, who assumes the risk associated with uncertainty because he do not know all of available natural resources, technological changes and prices²⁴. (Schumpeter’s) definitions of entrepreneurship and entrepreneur who define the entrepreneur as the innovator and as industrial leader. (Casson) give his definition for the entrepreneur, as decision maker. Therefore, the entrepreneur according to (Casson) is the person who makes decision to correct special phenomenon. (Marshall) look for the entrepreneur as the organizer and coordinator of economic resources to produce a product or give a service. Cantillon R. and Kirzner define the entrepreneur as an arbitrageur. (Schultz) define the entrepreneur as the allocator of resources among alternative uses.

Moreover, there facilitate in the step of analyzing all of:

²¹ Edward L. Glaeser, *Entrepreneurship and the City*, Working Paper (National Bureau of Economic Research, October 2007), <http://www.nber.org/papers/w13551>.

²² Bygrave, W. and C. W. Hofer (1991). Theorizing about entrepreneurship, *Entrepreneurship Theory & Practice*, 16(2), pp. 13–22

²³ E. Stam, “Entrepreneurship,” in *International Encyclopedia of Human Geography*, ed. Editors-in-Chief: Rob Kitchin and Nigel Thrift (Oxford: Elsevier, 2009), 492–498, <http://www.sciencedirect.com/science/article/pii/B978008044910400153X>.

²⁴ Frank H Knight, *Risk, Uncertainty, and Profit*, 1964.

- Incentives,
- Investment,
- Resource allocation decision,
- Occupational choice

From the view business of the researchers studies, they feel that the entrepreneurial way did not exist to be owner manager of small business, those researchers prefer to study;

- The entailed behavior in starting new business.

And

- Looking for the different knowledge of the person who will be entrepreneur.

These points called “revealed preference” principal, and the economists tend all the time to eschew it.

There are three most empirical measures of entrepreneur and entrepreneurship:

- ✓ New venture creation,
 - ✓ Small firms,
- And
- ✓ Self-employment for business ownership.

2.2.1 New venture creation and nascent entrepreneurs

According to (Shane and Venkataraman, 2000), they make that entrepreneurship is equal to the opportunity recognition and it means the new venture creation. For that, they said that this equating is a standard practice in the business studies approach to entrepreneurship²⁵.

1st. New venture Creator :

The definition of entrepreneurship as the creation of new ventures have seen and operationalized empirically in the exercise of data collection for entrepreneurship in GEM (Global Entrepreneurship Monitor). (Reynolds et al., 2005)²⁶.

a) GEM (Global Entrepreneurship Monitor):

It defines as an ‘entrepreneur’:

“Entrepreneur is the entire adults who engaged in setting up or launched the creation of a new venture which is in a period of less than forty-two months old”.

According to the previous definition, the proportion of population who are entrepreneur called TEA (Total Entrepreneurial Activity).

²⁵ Scott Shane and Sankaran Venkataraman, “The Promise of Entrepreneurship as a Field of Research*,” in *Entrepreneurship*, ed. Prof Álvaro Cuervo, Prof Domingo Ribeiro, and Prof Salvador Roig (Springer Berlin Heidelberg, 2007), 217–26, http://link.springer.com/chapter/10.1007/978-3-540-48543-8_8.

²⁶ Paul Reynolds et al., “Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998? 2003,” *Small Business Economics* 24, no. 3 (April 2005): 233–47, doi: 10.1007/s11187-005-1980-1.

According to GEM in 2005, the TEA (Total Entrepreneurial Activity) of most industrialized countries lies in the range of 5% to 10 %.

The GEM data is appeared that it gets a good advantage that is:” the construct definition and measurement of entrepreneurship are largely comparable across countries”.

First, we will give a quick overview about GEM:

The Global Entrepreneurship Monitor **GEM** research program was initiated in 1997 as a joint venture between academics at London business school in U.K and Babson College in the United States. From the first survey in 1999, the GEM has grown into a consortium of more than 400 researchers from about 100 economies over its 14 years (until now day). In 2012, 69 economies participated in GEM. They give and provide new insight about entrepreneurship across the largest sample of the economies to date, and it is spanning into all different geographic regions and touches all economic development level²⁷.

About the activity of this consortium, the GEM project is an annual assessment of the entrepreneurial activity, aspiration and different attitudes of individuals across a wide range of countries. The first study of GEM covered 10 countries, since then nearly 100 national teams from every corner of the global entrepreneurship monitor have participated in the project which continuous to gross annually in 2011. For the financial side, the project had an estimated global budget of nearly nine million \$. In addition, GEM is;

- The largest ongoing study of entrepreneurial dynamics in the world.
- GEM explores the role of entrepreneurship in national economic growth.
- GEM unveils the detailed national features and different characteristics that it associated with entrepreneurial activity.
- The GEM get team of experts that they collect data and harmonize them, facilitate the cross-national comparison of entrepreneurship data and guarantee the best quality and the credibility of the data.

The main objectives of this program (GEM program) are:

- Measure the differences in the level of entrepreneurial activity between countries,
- Uncovering the different best leading factors for the best entrepreneurship levels.
- Suggesting different policies that may enhance the national levels of entrepreneurial activity.

Global Entrepreneurship Monitor is unique because its studies are concerned also in the gross routes level with:

- ✚ Behavior of individuals with respects to starting and managing a business.

²⁷ Siri Roland Xavier et al., *GEM 2012 Global Report*, Global Reports, January 17, 2013, <http://www.gemconsortium.org/docs/2645/gem-2012-global-report>.

This approach provides a more detailed picture of entrepreneurial activity than is found in official national registry dataset's.

Returning to our definition, the identification of entrepreneurship as venture creation gets several drawback. From these drawbacks, there are:

- Many of these new ventures generate little private or social value because they look like mundane or the entrepreneurs in these points make just for business hobbies. For that, we find that it is so far for Schumpeter definition of entrepreneurship even if these kinds of new venture creation joined into the TEA (Total Entrepreneurial Activity).
- GEM by fixing the time of entrepreneurship in the first forty two (42) month, it eliminates or it excludes many entrepreneurs. This view is almost not chimes with the popular view of entrepreneur and entrepreneurship.
- To focus in the meaning of new venture, the other different activities such as growth or exit a part of entrepreneurship in firm are excluded where many people find these activities or the others as business closure are essential of entrepreneurship. For example harvesting activity.
- GEM faces different difficulties especially the scarce of data and the short time series. For example, many cross-countries studies based on 20 to 30 observations, this less number of observation cannot give a well presentation of the phenomenon in a fixed country.
- Another trouble is related with the tear to year volatility and change in TEA (Total Entrepreneurial Activity) because of excluding older firms.
- Because of the failing to net out the numerous business exit that are occur, according to (Gartner and Shane, 1995), “the new venture creation and the GEM approaches probably overstate sustained, wealth creation entrepreneurship”²⁸.

GEM put a useful operationalized distinction related to the entrepreneur that is there are two kinds of entrepreneurs and there is well difference between them that are:

²⁸ William B. Gartner and Scott A. Shane, “Measuring Entrepreneurship over Time,” *Journal of Business Venturing* 10, no. 4 (July 1995): 283–301, doi:10.1016/0883-9026(94)00037-U.

Table 3: Opportunity and necessity entrepreneur

Opportunity entrepreneur	Necessity entrepreneur
Pursue an entrepreneurial opportunity even though attractive alternative ways of earning a living are open to them.	No better alternative to work than entrepreneurship
In GEM 2001, economic growth related with the opportunity entrepreneurship.	In GEM 2001, social welfare programs affect the necessity entrepreneurship ²⁹ .

Source: The Economics of Entrepreneurship³⁰

IN GEM 2012, they differ between the both categories of entrepreneur as it shown below; Individuals who start businesses in response to a lack of other options for earning an income are deemed to be necessity entrepreneurs. While those who start businesses with the intention to exploit an Entrepreneurial opportunity. This entrepreneurial opportunity is ideas, actions, and all beliefs that enable the individuals to produce product or give services in the absence of the current markets of them³¹. The opportunity entrepreneur may include individuals who aims to maintain or improve their income, or to enhance their independence³².

2nd. **Nascent Entrepreneur:**

All individuals launch the steps to create a business, but they have not succeed yet in making the transition to business ownership³³. There is a specific part of GEM data collection measures the Nascent Entrepreneur. These data returning back to the persons who answer yes for the following question (the person must answer yes to be classified as nascent entrepreneur for the following questions that are asked in GEM questionnaire)³⁴:

- Are you alone or with others, now trying to start a business?
- Do you expect to be owner or part owner of the new firm?
- Have you been acting in trying to start the new firm in the past twelve month?
- Has your startup not yet generated a positive monthly cash flow that covers expanses and the owner-managers salary for more than three months?

Remarque:

The situation of the respondent must be in the startup or gestation (i.e. before launching the new firm).

²⁹ Reynolds, P. D., W. D. Bygrave, E. Autio, L.W. Cox and M. Hay (2002). GEM Global 2002 Executive Report, www.gemconsortium.org/

³⁰ PARKER, *The Economics of Entrepreneurship*, 7–8.

³¹ Stam, "Entrepreneurship."

³² Siri Roland Xavier et al., *GEM 2012 Global Report*.

³³ Stam, "Entrepreneurship."

³⁴ "Home :: GEM Global Entrepreneurship Monitor ::," accessed July 22, 2013, <http://www.gemconsortium.org/>.

From the best advantages of studying Nascent Entrepreneur in exploring the entry process, there are:

- The avoidance of survival,
- The avoidance of hindsight

a) Survival bias:

This advantage arises because according to (Aldrich, 1999), "from the aspiring business founder that appears eventually in the business records, just half of them succeed in creating new organization"³⁵.

Another problem is related with the firm which ultimately start-up. These star-up does not represent all those, which originally tried. In addition, those start-ups contain relatively few of smallest start-ups. For that and according to (Davidsson,2006,p.3) and as a result of this bias, there are several data sets of Nascent Entrepreneurs studies is looked as the gamblers studies by the exclusion of winning investigation³⁶.

b) Hindsight bias:

This bias founded in the time when the established entrepreneur misreport events that are happened before the start-up. According to (Cassar, 2007), "the nascent entrepreneur is prone to substantial recall bias. For that, the interviewers avoid this question at the time of startup"³⁷.

With the GEM (Global Entrepreneurship Monitor), to measure entrepreneurship, there is also PSED (Panel Study of Entrepreneurial Dynamics). This new program of research was created to understand scientifically the following question:

Q: How people create and start business?

PSED provides interesting valid data on the process of business formation. These formations based on nationally reservation sample of NE (Nascent Entrepreneur). Under these program there are PSED I and PSED II. PSED I began in 1998-2000 and the second one PSED II began in 2005-2006. The team of PSED makes interviews (especially random telephone interviews) because they find it the most effective method to measure NE (Nascent Entrepreneur) in the first and to get valuable data for the analysis. In the table below, there is an abstract about the Nascent Entrepreneur rates from the OECD countries:

³⁵ Howard Aldrich, *Organizations Evolving* (SAGE, 1999).

³⁶ Per Davidsson, "Nascent Entrepreneurship: Empirical Studies and Developments," *Foundations and Trends® in Entrepreneurship* 2, no. 1 (2005): 1–76, doi:10.1561/0300000005.

³⁷ Gavin Cassar and Brian Gibson, "Forecast Rationality in Small Firms*," *Journal of Small Business Management* 45, no. 3 (2007): 283–302, doi:10.1111/j.1540-627X.2007.00213.x.

Table 4: International rates of NE nascent entrepreneur

Country	NE (Nascent Entrepreneur) rate	Country	NE (Nascent Entrepreneur) rate
Venezuela	0.192	Finland	0.041
Chile	0.109	Germany	0.035
New Zealand	0.093	UK	0.034
USA	0.081	Singapore	0.030
Australia	0.066	South Africa	0.027
Brazil	0.065	Italy	0.020
Ireland	0.051	Netherlands	0.017
Canada	0.051	Hong Kong	0.017
Spain	0.044	Japan	0.014
China	0.043	France	0.009

Source: Global Entrepreneurship Monitor 2003³⁸

2.2.2 Small firms³⁹:

The entrepreneurship is presented traditionally in the number of small and medium sized enterprises in the economy. The U.S Small Business Administration as an enterprise defines it as firm with fewer than 500 employees⁴⁰.

This definition from the easiest definition because it facilitate the measurement of entrepreneurship in the economy since most national statistic agencies get the data of entrepreneurship according to the size range of this SME's.

Now, just few studies believe in the previous definition that the SME's are congruent with entrepreneurship because many other researchers as (Brock and Evans, 1986; Holtz-Eakin, 2000) said that not all companies that created by entrepreneurs are just small or medium firms, and not all small firms are created by entrepreneurs. In addition, the firms' size definition is arbitrary and industry specific and it do not obviously represent the real notion of entrepreneurship⁴¹.

The number of SME's is joined also the person who creates business in part time or from their hobbies, create businesses. These are not truly entrepreneur according to the definition of

³⁸ Paul D. Reynolds, William D. Bygrave, and Erkkö Autio, *GEM 2003 Global Report*, 2003, <http://www.gemconsortium.org/docs/259/gem-2003-global-report>.

³⁹ Stephan F. Gohmann and Jose M. Fernandez, "Proprietorship and Unemployment in the United States," *Journal of Business Venturing* no. 05660 (2013): 21, doi:10.1016/j.jbusvent.2013.02.003.

⁴⁰ D.B. Audretsch, M.A. Carree, and A.R. Thurik, "Does Entrepreneurship Reduce Unemployment?," September 2002, 5, <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.202.3484>.

⁴¹ PARKER, *The Economics of Entrepreneurship*, 10.

Peter Drucker that is being innovative, growth and profit driven (Carland et al., 1984)⁴². In this point, Simon C. Parker, 2009 in his book “the economics of entrepreneurship” said that small business is about firms where entrepreneurship is about individuals who exploiting opportunities.

2.2.3 Self-employment⁴³/business ownership:

Many authors measure entrepreneurship by number of self-employed such as (storey, 1991)⁴⁴. The first demonstration of using self-employment or business ownership to measure entrepreneurship is that according to the majority of authors:

- Risk taking activity,

As it shown in the society; the entrepreneur possess the merit of inclusivity because they own their own business and do not have employer to ménage his firm.

The authors by the definition of self-employment fail to capture many nascent entrepreneurs.

According to Barton H. Hamilton in 2000, entrepreneur is all proprietors⁴⁵ or self-employed individuals⁴⁶.

According to GEM data, there are about 80 percent of nascent entrepreneur who have their business and they stay to develop it and occupy another paid work. For that, they are not measured as self-employed (through the household survey that is the primary source of self-employed). Self-employment and business ownership classification overlap but are not identical because for example, some employees got their own business or business shares of businesses in other companies while other self-employees don't own business any concrete sense.

Therefore, the main advantage from using self-employment to measure entrepreneurship is the large implement in the both of individual level within household survey and national level. This later allows performing an international comparison of self-employment through the OECD labor force statistics database.

⁴² James W. Carland et al., “Differentiating Entrepreneurs from Small Business Owners: A Conceptualization,” *The Academy of Management Review* 9, no. 2 (April 1984): 354, doi:10.2307/258448.

⁴³ Stephan F. Gohmann and Jose M. Fernandez, “Proprietorship and Unemployment in the United States.”

⁴⁴ D. J. Storey, “The Birth of New firms—Does Unemployment Matter? A Review of the Evidence,” *Small Business Economics* 3, no. 3 (September 1, 1991): 167–178, doi:10.1007/BF00400022.

⁴⁵ Barton H. Hamilton, “Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment,” June 2000, 3 edition.

⁴⁶ Ibid.

According to (Katz, 1990), there are widespread available data about self-employment in government surveys. Self-employment is one of the easiest measures to operationalize empirical research for entrepreneurship⁴⁷.

According to (SIMON C. PARKER, 2009), self-employed is classified as individual who:

- Earn no regular wage,
- Derive their income,
- Exercise the profession and business on their own account and own risk.
- Operate sole proprietorship*.

In addition, we find that partners of an incorporated business are classified as entrepreneurs.

For that, these definitions help to divide self-employed into:

- 1st. Employer,
- 2nd. Own account worker (the latter work alone)

Or

- 3rd. Owner of incorporated business,
- 4th. Unincorporated business.

According to (Bregger, 1996), CPS data suggest that 62% of American run unincorporated business⁴⁸.

According to (Evans and Jovanovic, 1989), they suggest that:

Incorporated business owners tend to be older and employ other persons⁴⁹.

For that, it might explain that the incorporation rates among new entrants to self-employment are about one-half of the previous rate.

Self-employment and business ownership get an important role in the economy, and we can appreciate it from the following points:

- According to the OECD countries, there are around 10 percent of workforces who are self-employed.
- In the US economy, two third of people in the labor force get some linkages to self-employment by:

⁴⁷ Katz, J. A. (1990). Longitudinal analysis of self-employment follow-through, *Entrepreneurship & Regional Development*, 2, pp. 15–25

* A sole proprietorship is an unincorporated business owned by one person which makes no distinctions between the assets of the business and the personal liabilities of the owner

⁴⁸ John E. Bregger, "Measuring Self-Employment in the United States.," *Monthly Labor Review* 119, no. 1 (1996): 3–9.

⁴⁹ David S. Evans and Boyan Jovanovic, "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints," *Journal of Political Economy* 97, no. 4 (1989): 808–27.

- ◆ Having experienced self-employment themselves;
- ◆ Coming from a back ground in which the households are self-employed;
- ◆ Having a close friend who is self-employed⁵⁰ (Steinmetz and Wright, 1989);
- ◆ According to (Reynolds and White, 1997), "two fifths of American workforce in the end of their working lives has experienced one spell of self-employment⁵¹."
- ◆ According to (Acs et al., 1994; Selden, 1999), "self-employees operate about 80 to 90% of all businesses in the economy."
- ◆ According to (Blanchflower, 2000), he said that according to the interviewers, 63% of Americans, 49% of Germans and 48% of Britons declared to be self-employed rather than paid employees⁵².

From the most problems of using this definition i.e. using self-employment as measurement of entrepreneurship.

First, in many countries as US and UK, the owners of incorporated business defines as employees rather than self-employed in tax purposes.

Second, in law, the issue is related with the nature of contract because there are:

- ◆ Contract of service,
- ◆ Contract for service.

The contract of service indicates paid employment and the second i.e. contract for service indicate self-employment. According to (Harvey, 1995) who cited in US legal case that the criteria for a worker being under contract of service includes⁵³;

- ✓ Worker don't determining their own hours,
- ✓ Not supplying their own equipment and materials,
- ✓ Not allocating or designating their work,
- ✓ Not being able to nominate a substitute to work in their place,
- ✓ Moreover, not setting their own rate of pay.

⁵⁰ G. Steinmetz and E. Olin Wright, "The Fall and Rise of the Petty Bourgeoisie : Changing Patterns of Self-Employment in the Postwar United States," *American Journal of Sociology* 94, no. 5 (n.d.): 973–1018, accessed July 23, 2013.

⁵¹ Howard Aldrich, "The Entrepreneurial Process: Economic Growth, Men, Women, and Minorities. Edited by Paul D. Reynolds and Sammis B. White. Westport, Connecticut: Quorum Book, 1997.," *Small Business Economics* 11, no. 4 (December 1, 1998): 395–398, doi:10.1023/A:1008069029220.

⁵² David G. Blanchflower, "Self-Employment in OECD Countries," *Labour Economics* 7, no. 5 (September 2000): 471–505, doi:10.1016/S0927-5371(00)00011-7.

⁵³ Harvey, M. (1995). *Towards the insecurity society: the tax trap of self-employment*, London, The Institute of Employment Rights

Third, according to (Casey and Creigh, 1988; Boden and Nucci, 1997), there are many households surveys stipulate self-employment status to be self-assessed by the survey respondents. These surveys can lead to further differences in the classification of workers, compared with legal and tax based definitions. For that, some interesting surveys in UK and US are:

- LFS in UK : Labor Force Survey,
- CBO in USA: Characteristics of Business Owners. This definition uses the first measurement (taxed-based) for the best definition of self-employment.

Fourth, many people who create new business are categorized as employees in the national survey because the wage and salary work is currently their first source of income. For that, self-employment typically only measures entrepreneurship once a venture is up and running. In addition, it does not capture the right meaning of entrepreneurship that is the process of creation itself. Where, some other scholars identify most closely with entrepreneurship that is the leaning of creation.

Fifth, some other authors understand them like a grey area between the both definition of Self-employment and Paid-employment. According to (Pollert, 1988; Harvey, 1995), they categorize some classified workers as self-employed with the peripheral workers that are subordinated to the demand of one client according to the apparent autonomy over their work hours.

According to (Böheim and Muehlberger, 2006; Cabeza Pereiro, 2008) they are sometimes referred to as ‘dependent self-employed workers’.

According to an ILO reported by (Böheim and Muehlberger, 2006), “these workers provide work or perform services to other persons within the legal framework of a civil or commercial contract, but are dependent on or integrated into the firm which they perform the work or provide the service in question”⁵⁴. They define the dependent self-employed worker as a sole proprietor with only one customer. In addition, they said that in UK, the dependent self-employment amount in number to about 1/10 of the number of non-dependent self-employed.

According to these authors, the dependent self-employed tend to be:

- Older,
- White,
- Have modest education,

⁵⁴ René Böheim and Ulrike Muehlberger, *Dependent Forms of Self-Employment in the UK: Identifying Workers on the Border between Employment and Self-Employment*, IZA Discussion Paper (Institute for the Study of Labor (IZA), 2006), <http://ideas.repec.org/p/iza/izadps/dp1963.html>.

- Get job tenures but persist to be dependent self-employed.

In general, the dependent self-employed concentrate in constructions, financial services, and skilled trades.

According to (Parker, 2007), he sometimes argues that employers look for organizing their workforce in self-employment contract to avoid their social obligations and to reduce the costs⁵⁵.

The new laws can affect the number of dependent self-employed in specific sector. For example, according (Moralee, 1998) as a response for the new laws that it penalizes companies that misclassify employees as self-employed to avoid tax payment, the number of employees in construction industries increased sharply, in the other side the number of self-employed decreased also sharply⁵⁶.

This grey area includes also other kinds of workers (they work between paid-employment and self-employment) as:

- a. Sales persons,
- b. Freelancers,
- c. Homeworkers,
- d. Teleworkers
- e. Workers contracted through temporary employment agencies,
- f. Franchise-holders

According to (Moralee, 1998), 13% of the self-employed in UK in 1998 were homeworkers in 1997, and 61% of teleworkers were self-employed the year before.

According to these definitions and others, the self-employed are very diverse group of people because according to (Meager and Bates, 2004) they include⁵⁷:

- Small business proprietorship whose businesses may or may not be incorporated,
- Independent professionals such as doctors and lawyers,
- Skilled manual and craft worker.
- Farmers.
- Some categories of homeworkers.
- And labor-only subcontractor such as construction workers

⁵⁵ Simon C. Parker, "Contracting Out, Public Policy And Entrepreneurship," *Scottish Journal of Political Economy* 57, no. 2 (2010): 119–144.

⁵⁶ Moralee, L. (1998). Self-employment in the 1990s, *Labour Market Trends*, 106, pp. 121–30

⁵⁷ Meager, N. and P. Bates (2004). Self-employment in the United Kingdom during the 1980s and 1990s, in Arum and Müller (eds.) (2004), pp. 135–69

According to Guiso et al. (2004), they claim that a measure of pure entrepreneurship should exclude from self-employed samples all⁵⁸:

- ✓ Professionals,
- ✓ Artisans,
- ✓ Plumbers,
- ✓ Electricians,
- ✓ Moreover, other tradesman.

Therefore, self-employment is a convenient but imperfect measure of entrepreneurship.

As a conclusion of the entrepreneurship definition, in the first there is no common definition of entrepreneurship. For that and returning to Baumol (1993b);

- ❖ Who is an entrepreneur?
- ❖ What is entrepreneurship?

Because:

- ✚ Many of the definitions are complementary rather than competitive,
- ✚ Each definition seeks to focus on some different features of the entrepreneurship.

There is also who argues that the existence of more than one practical measurement of entrepreneurship is a good positive advantage rather than drawbacks.

Different measures contain different information about the entrepreneur and entrepreneurship, but they are complement rather than substitute or opposites.

There are also some authors as (Gartner and Shane, 1995) suggest making mixture of entrepreneurship measures in an empirical work will help to show entrepreneurship well in practice⁵⁹.

According to David B. Audretsch and A. Roy Thurik in 2000, there is a direct positive relationship between number of business owners and unemployment, that is mean the increase in number of business owners affect directly and reduce the unemployment⁶⁰.

Other authors such as Glaeser in 2007 who suggest that entrepreneur is defined as self-employee who hire between one until four workers⁶¹.

⁵⁸ Luigi Guiso, Paola Sapienza, and Luigi Zingales, *Does Local Financial Development Matter?*, Working Paper (National Bureau of Economic Research, May 2002), <http://www.nber.org/papers/w8923>.

⁵⁹ Gartner and Shane, "Measuring Entrepreneurship over Time."

⁶⁰ David B. Audretsch and A. Roy Thurik, "Capitalism and Democracy in the 21st Century: From the Managed to the Entrepreneurial Economy."

⁶¹ Edward L. Glaeser, *Entrepreneurship and the City*.

3. The entrepreneurship over the world:

3.1. The Entrepreneurship in developed countries from 1960 to 2010:

In this section, we will make a clear image about the entrepreneurship in developed countries, and to look for the effect of the fundamental changes such as:

- Technological changes in entrepreneurship by using a long time span of data.

The authors in this section use self-employment as measurement for entrepreneurship. In the table below, we try to present the different rates of entrepreneurship in developed countries but in two categories;

- The first category contain all entrepreneurs (including also agricultural workers),
- The second one do not include agricultural worker to understand the proportion of agriculture in the entrepreneurial activities in the developed countries.

Table 5: Aggregate self-employment rates in some selected OECD countries between 1960-2010a (per cent)

	1960	1970	1980	1990	2000	2010
<i>A. All workers</i>						
USA	13.83	8.94	8.70	8.50	7.33	7.00
Canada ^b	18.81	13.20	9.74	9.52	10.66	9.2
Japan	22.68	19.18	17.18	14.05	11.34	12.3
Mexico	34.25	31.29	21.67	25.64	28.53	34.7
Australia	15.86 ^c	14.09	16.16	15.05	13.49	11.6
France ^b	30.51	22.17	16.79	13.26	10.56	9.2
Italy	25.93	23.59	23.26	24.53	24.48	25.5
Netherland ^b	21.87	16.65	12.23	9.64	11.20	15
Norway	21.79	17.90	10.03	9.24	7.03	7.7
Spain ^b	38.97	35.59	30.47	26.27	20.49	16.9
UK	7.28	7.36	8.05	13.32	11.34	13.9
<i>B. Non-agricultural workers</i>						
USA	10.45	6.94	7.26	7.51	6.55	
Canada ^b	10.17	8.33	7.05	7.40	9.46	
Japan	17.38	14.44	13.75	11.50	9.35	
Mexico	23.01	25.20	14.33	19.89	25.48	
Australia	11.01 ^c	10.00	12.73	12.34	11.72	
France ^b	16.90	12.71	10.71	9.32	8.06	
Italy	20.60	18.97	19.20	22.24	23.21	
Netherlands ^b	15.08	12.02	9.06	7.84	9.25 ^d	
Norway	10.14	8.61	6.53	6.12	4.83	
Spain ^b	23.60	21.55	20.63	20.69	17.69	
UK	5.89	6.27	7.11	12.41	10.83	

Source: OECD Labor Force Statistics issues, 1980-2000, 1970-81 and 1960-1971 and OECD FACTBOOK 2011-2012⁶²

⁶² PARKER, *The Economics of Entrepreneurship*.

Notes:

^a Self-employment rates define as employers plus persons working on their own account as a proportion of total work force.

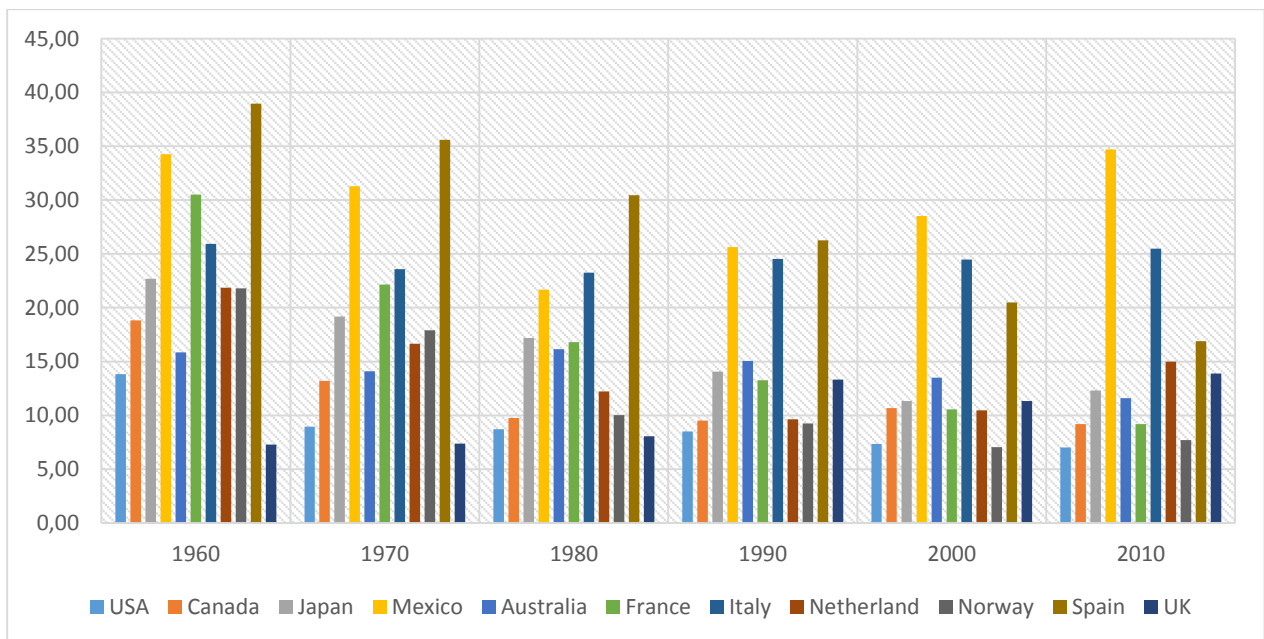
^b The presented rates include unpaid family workers.

^c This rate is for the year 1964 not for 1960.

^d This rate is for the year 1999 no for 2000

The chart in figure 2 present the rates of self-employment in some selected OECD countries. In this data, we find that they make two categories of self-employed. One category contain all self-employed with the agricultural activities and the second category without agriculture activities.

Figure 2: Self-employment rates in some selected OECD countries between 1960-2010^a
(percent)



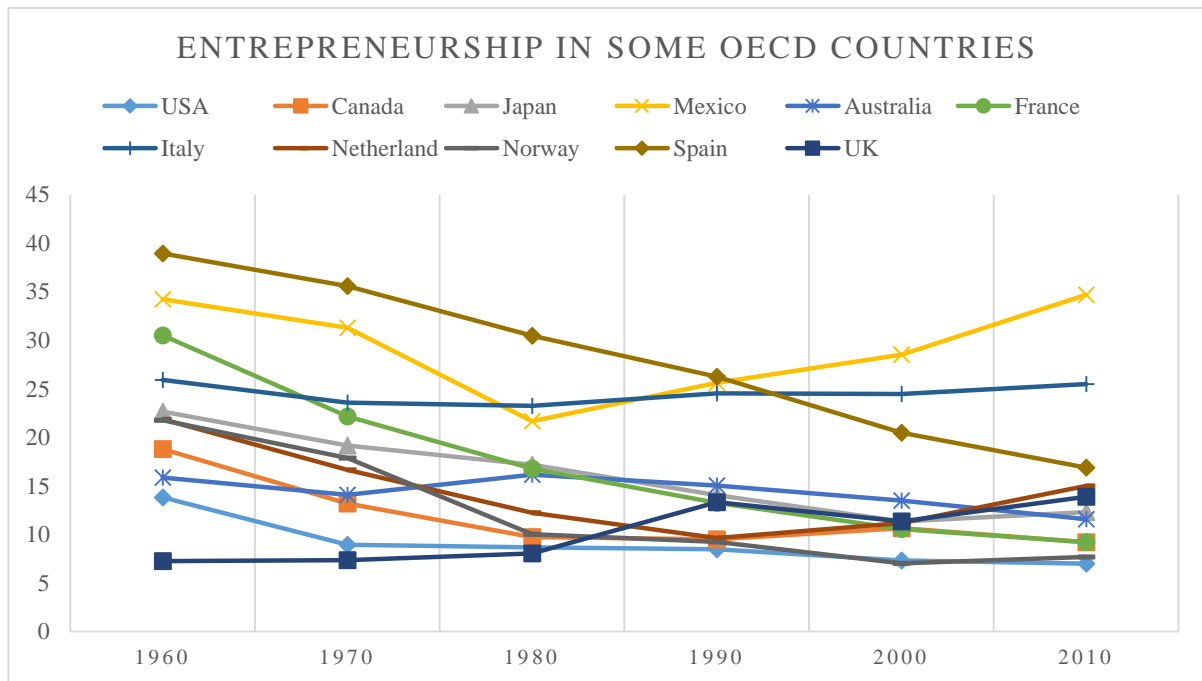
Source: OECD Labor Force Statistics issues, 1980-2000, 1970-81 and 1960-1971 and OECD FACTBOOK 2011-2012

They exclude the agriculture because they see that farm businesses have very characteristics than non-farm business. In addition, according to (Blanchflower, 2000), the agricultural sector tend to decline as an economy develops, which may destroy self-employment trends in other sectors of the economy⁶³.

The figure 3 shows the growth of the entrepreneurship in this these countries from 1960 to 2010:

⁶³ Blanchflower, "Self-Employment in OECD Countries."

Figure 3: growth in entrepreneurship in some OECD countries from 1960 to 2010



Source: OECD Labor Force Statistics issues, 1980-2000, 1970-81 and 1960-1971 and OECD FACTBOOK 2011-2012

Discussion:

From the table 5 above, we show that US rates of entrepreneurship are low in front of the others rates. Because in US, they use the CPS monthly household labor survey, and it excludes the incorporated business owners where in the other countries, the data include all categories of self-employed. For that, and according to (Manser and Picot, 1999), the US rate would raise by about 2.5% to similar the rates in other industrialized countries⁶⁴.

3.2. The entrepreneurship in transition economies of Eastern Europe

According to Earle and Sakova (2000, p. 583), “it is difficult to imagine a regime more hostile towards self-employment and entrepreneurship that the centrally planned economies of Eastern Europe”⁶⁵.

These regimes:

- Fixed prices of products or services,
- Fixed wages,
- Placed restriction on hiring worker and acquiring capital,
- Levied confiscatory taxes on entrepreneur.

⁶⁴ Garnett Picot, Marilyn E. Manser, and Zhengxi Lin, “The Role of Self-Employment in Job Creation in Canada and the United States,” 10–25.

⁶⁵ Earle and Sakova, “Business Start-Ups or Disguised Unemployment?,” 575–601.

We can see the effects of these regimes in the low non-agricultural self-employment rates in the table number 6 below that help Poland in 1980 and Russia in 1992.

Table 6: aggregate self-employment rates in some selected transition economies between the year 1980–1998/99 (per cent)

	1980	1990	1992	1994	1998/99
➤ Poland(all workers)	25,44	27,17			22,44
➤ Poland (non-agricultural)	3,37	9,16			11,70
➤ Russian federation			0,76		5,29
➤ Czech Rep.(all workers)				10,18	14,59
➤ Czech Rep.(non-agricultural)				10,25	14,50
➤ Hungary (all workers)				16,93	14,56
➤ Hungary (non-agricultural)				16,94	12,81
➤ Slovak Rep.(all workers)				6,21	7,80
➤ Slovak Rep. (non-agricultural)				6,49	8,00

Source: UN yearbook of labor statistics, various issues.

Remarque: 1998/99 is 1998 for Poland and 1999 for the Russian Federation.

Notes:

As in the previous table self-employment rates defined as employers plus persons working on their own account, as a proportion of total workforce.

According to (Estrinet al., 2006), some researchers highlight the following obstacles to entrepreneurship in the transition economies⁶⁶:

- a. Individuals lacked wealth to finance their own new ventures plus the underdeveloped market to lend for the creation of new ventures.
- b. The economy uncertainty and the ongoing imbalances between supply and demand. The different condition of inflation and recession restrict purchases of shares of newly privatized companies for many citizens and other conditions fostered corruption and mafia operation.
- c. The weak institution through the uneven enforcement of contract obliges the entrepreneur to remain unusually vulnerable into the corruption because they cannot rely on secure property right enshrined in the rules of law.
- d. The negative social attitudes towards private business and entrepreneurship.

⁶⁶ Saul Estrin, Adecco, Maria Bytchkova, and Klaus E. Meyer, "Entrepreneurship in Transition Economies," 2006.

3.3. Entrepreneurship in Developing countries

Entrepreneurship face an interesting growth in the developing countries. According to W. Arthur Lewis (1955, p. 82): ‘economic growth is bound to slow unless there is an adequate supply of entrepreneurs looking out for new ideas, and willing to take the risk of introducing them’⁶⁷.

Moreover, according to Leff (1979), he asserted that this importance was because of a perception that the entrepreneurial problem had been ‘solved’, with high rates of real output growth serving as evidence of entrepreneurial vigor⁶⁸.

However, in the latest years and according to the slower growth in different developing countries, the high rates of population growth, widespread failures of state-owned enterprises, constraints on public sector employment and the spread of free-market beliefs reactivated the interest in promoting and enhancing the entrepreneurship in developing economies to solve the previous problems.

In the table number 7 below, we show that on average that developing countries have seen higher self-employment rates than developed countries because it is in the departure, so it should actually invest the maximum forces to create entrepreneurship, launch new entrepreneurs in addition to enhance and encourage people to create their own enterprises.

Table 7: Aggregate self-employment rates in some selected developing countries, the 1960s to the 1990s (per cent)

	1960s	1970s	1980s	1990s
Africa				
Mauritius	13.03	10.30	n.a.	16.72
Egypt	29.19	26.14	28.20	27.19
Americas				
Bolivia	n.a.	48.86	40.27	34.81
Costa Rica	20.78	17.10	21.80	24.70
Dominican Rep	44.79	29.44	36.46	37.11
Ecuador	42.97	37.81	37.27	37.03
Asia				
Bangladesh	7.33	45.56	38.83	29.59
Korean Republic	44.04	33.92	33.07	28.02
Pakistan	21.94	46.90	55.95	48.18
Sri Lanka	26.94	22.90	24.74	26.68
Thailand	29.83	29.65	29.75	28.45

Source: SIMON PARKER, the Economics of Entrepreneurship 2009; p 23

⁶⁷ Lewis, W. A. (1955).The Theory of Economic Growth, London, Allen & Unwin

⁶⁸ Leff, N. H. (1979). Entrepreneurship and economic development: the problem revisited, Journal of Economic Literature, 17, pp. 46–64

Notes:

Self-employment rates defined as employers plus persons working on their own account, as a proportion of the total workforce. Includes agricultural workers.

Source⁶⁹: UN Yearbook of Labor Statistics, various issues. '1960s' is either 1960, 1961, 1962 or 1963 for all countries; '1970s' is some year between 1970 and 1976; '1980s' is 1980 or 1981 except Ecuador (1982), Costa Rica (1984) and Bolivia (1989); and '1990s' is some year between 1990 and 1996.

There are also many Asian countries get high rate of self-employment where it can exceed the half of work force as the Philippines and Indonesia (Le, 1999)⁷⁰, and Nepal (Acs, Audretsch and Evans, 1994)⁷¹.

Some researchers as Acs, Audretsch and Evans in 1994 said that self-employment rate in Nepal exceeded 85 per cent in the 1980s if we compare it with Botswana where it was only 3.1 per cent.

According to (Blau, 1987; Schultz, 1990), they said that the trends in developing countries are away from self-employment, so the evidence in the table reveals that no such trend can be generally established.

It is noteworthy that the evidence in the table relates to relatively small developing countries. Conspicuous by their absence are the 'BRIC' (Brazil, Russia, India and China) economies. The last two countries in particular are rapidly becoming major players in the world economy, making it likely that entrepreneurship researchers will pay them greater attention in future (Bruton et al., 2008)⁷².

Question:Why are the rates of self-employment so high in developing countries?

There are three important factor give respond to this question⁷³:

- The agricultural factor, because it play an important role in the growth of economies of developing countries according to the suitable region for agriculture.
- Informal self-employment, because according to (YAMADA, 1996), at least the one fifth of self-employment in developing countries are in the informal sector. This factor

⁶⁹ PARKER, *The Economics of Entrepreneurship*.

⁷⁰ Anh T. Le, "Empirical Studies of Self-Employment," *Journal of Economic Surveys* 13, no. 4 (1999): 381–416, doi:10.1111/1467-6419.00088.

⁷¹ Zoltan J Acs, David B Audretsch, and David S Evans, *Why Does the Self-Employment Rate Vary across Countries and over Time?* (London: Centre for Economic Policy Research, 1993).

⁷² Garry D. Bruton, David Ahlstrom, and Krzysztof Obloj, "Entrepreneurship in Emerging Economies: Where Are We Today and Where Should the Research Go in the Future," *Entrepreneurship Theory and Practice* 32, no. 1 (2008): 1–14, doi:10.1111/j.1540-6520.2007.00213.x.

⁷³ PARKER, *The Economics of Entrepreneurship*, 23.

related to the difficulties seen in the period of creating enterprises, in addition to the additional costs and taxes for the formal enterprises.

- Limited development of formal economic and financial markets, because according to (Leibenstein, 1968) he argues that entrepreneurship in developing countries is affected directly by the poor economic and financial infrastructure and a little constraint with the side of nature⁷⁴.

In this introduction, I try to give a global image about entrepreneurship. As we seen, there are several definition and kinds of measuring entrepreneurship from venture creation to self-employment. Moreover, I try to summarize the situation of entrepreneurship in the global world from the developed countries to developing countries to understand how entrepreneurship affects the growth in different countries with different level of growth.

4. Early theories of entrepreneurship:

In this chapter, we will provide a global view about the early theories of entrepreneurship. With another meaning, we will classify some different theories of entrepreneurship according to the meaning of it.

4.1. Arbitrage and the bearing of risk and uncertainty theory:

According to Richard Cantillon in 1755, he is the first who said that the entrepreneur is an arbitrageur or speculator, i.e. the entrepreneur is the person who takes risk of buying product with a certain price of course and selling it in another place with an uncertain price and uncertain risks⁷⁵. For that, the person who receives an uncertain wages and incomes can be regarded as entrepreneurs.

According to Cantillon R. also, the successful entrepreneur play an important role in the economy because he:

- Relieve the uncertainty paralysis,
- Allow production and exchange to occur,
- Attain the equilibrium in a new market.

According to Cantillon R, the entrepreneur is not an innovator that is bringing new thing or create new product. He is:

- 1) The Perceptive,
- 2) The Intelligent,
- 3) The person who Apt to take risks.

⁷⁴ Leibenstein, H. (1968). Entrepreneurship and development, American Economic Review, 58, pp. 72–83

⁷⁵ Richard Contillon, *Cantillon, Essai sur la nature du commerce en général (1755)*, 2011, <http://www.institutcoppet.org/2011/12/03/cantillon-essai-sur-la-nature-du-commerce-en-general-1755/>.

Therefore, his role is bringing the both of the market side, i.e. supply and demand by taking all the risks.

According to Cantillon theory, there develop two directions with strong bases those are:

First: according to Kirzner (1973, 1985), he also look for the entrepreneur as arbitrageur or middlemen (intermediary) who is alert to profitable opportunities that is in reality available for every person. Kirzner gets different views to the entrepreneurial opportunities; these views allow us to understand why some people be entrepreneur rather than other ones. Successful entrepreneur is the person who:

- ✓ Notice what the other overlook,
- ✓ Profit from the others exceptional alertness,

Recently and according to (Gifford, 1998), he tried to endogenise this alertness in a model of limited entrepreneurial attention⁷⁶. So, the entrepreneur endow with:

- High level of managerial ability,
- Spending much time to operate new project.

Second: according to Knight (1921), entrepreneur does not have much information about:

- The available natural resources,
- Technological changes,
- Prices

From the most important that affect the prices are:

- ◆ Change in consumer demand,
- ◆ Change in competitor actions.

Therefore, it is so necessary for the entrepreneur to get some important but not tradable characteristics in his personality or he will extremely fail. From these characteristics there are:

- ◆ Self-confidence,
- ◆ Venturesome nature,
- ◆ Luck,
- ◆ Judgment,
- ◆ Foresight.

The previous characteristics according to (Foss et al., 2007); they provides basic entrepreneurial theory of the firm because there can used as complementary productive assets⁷⁷.

⁷⁶ Sharon Gifford, *The Allocation of Limited Entrepreneurial Attention* (Springer, 1998).

⁷⁷ Kirsten Foss et al., "The Entrepreneurial Organization of Heterogeneous Capital," *Journal of Management Studies* 44, no. 7 (2007): 1165–1186, doi:10.1111/j.1467-6486.2007.00724.x.

In Knight Words, he tries to recognize that taking decision to become entrepreneur or simple worker is related to risk taking.

According to (Knight, 1921, p. 273), “The laborer asks what he thinks the entrepreneur will able to pay, and in any case will not accept less than he can get from some other entrepreneur, or by turning entrepreneur himself. In the same way the entrepreneur offers to any laborer what he thinks he must in order to secure his services”⁷⁸.

Therefore, Knight looked the person as opportunist not as born entrepreneur or non-entrepreneur.

According to Alvarez and Parker (2009), and through Knight writing about risk and uncertainty, they try to define both of them as:

Risk: is the case where the individuals⁷⁹:

- ◆ Do not know in advance the outcome of a draw from a given probability distribution,
But
- ◆ Do know the parameters and structures of the true underlying probability distribution.

Uncertainty: is arises when individuals are ignorant of the both of the outcomes of the random draw and the rue probability distribution.

4.2. Co-ordination of factors of production theory:

Starting from Jean-Baptiste Say definition in 1828 about the entrepreneur where he said that the chief contribution of the entrepreneur is the combination and co-ordination of different factors of production⁸⁰. Therefore, the place of the entrepreneur is in the center of the economic system. From the several activities that the entrepreneur does are:

- Direct and reward the different production factors,
- Take the residual in the end process of production as profit.

From the personal characteristics that it allows the entrepreneur to be successful entrepreneurs are:

- ✓ Judgment,
- ✓ Perseverance,
- ✓ Require experience.

In addition, it is necessary for the entrepreneur to be:

- Resourceful,
- Know how to overcome unexpected problem,

⁷⁸ Knight, *Risk, Uncertainty, and Profit*.

⁷⁹ SHARON A. ALVAREZ and SIMON C. PARKER, “Emerging Firms and the Allocation of Control Rights: A Bayesian Approach,” *Academy of Management Review* 34, no. 2 (April 2009): 209–227, doi:10.5465/AMR.2009.36982616.

⁸⁰ Jean-Baptiste Say, *Cours complet d'économie politique pratique* (Rapilly, 1829).

- Know how to exploit existing knowledge.

However, according to (Hébert and Link, 2006), they said that say's definition define the entrepreneur just as worker with managerial duties⁸¹. Others like (Casson, 2003, p.20) define the entrepreneur as someone who specializes in taking judgmental decisions about the coordination of scarce resources⁸².

4.3. Innovation and Destruction theory:

According to the leader of Innovation Josef Schumpeter (1934, 1939) who said, that it is necessary for the entrepreneur to entail Innovation. He said that the entrepreneur does not operate within conventional technological constraints or making small gradual changes to the existing production methods. Nevertheless, according to (Santarelli and Pesciarelli, 1990), the entrepreneur should:

- ✓ Develop new technologies or product
- ✓ Break organizational routines,
- ✓ Derive economic development.

From Schumpeter words in (1947), "the entrepreneur as innovator is responsible for the doing of new things or doing things that are already being done in a new way"⁸³.

Under these words, we can say that the entrepreneur is:

- ❖ Creator of new product,
- ❖ Use a new method or way of production,
- ❖ The person who can open a new market,
- ❖ Capture a new source of supply,
- ❖ Creator of new organization for industry.

Through Schumpeter definition, he also said for the entrepreneurial action as the principal cause of business cycle and for the development of the economy.

In 1934, Schumpeter said, "everyone is an entrepreneur only when he actually carries out new combination and loses that character as soon as he has built up his business, when he settles down to running it as other people run their business"⁸⁴.

These words are looked as rational definition for entrepreneurship because they focus in the creation of new ventures.

From the views of Schumpeter to the entrepreneur;

⁸¹ Robert F. Hébert and Albert N. Link, *Historical Perspectives on the Entrepreneur* (Now Publishers Incorporated, 2006).

⁸² Mark Casson, *The Entrepreneur: An Economic Theory* (Rowman & Littlefield, 1982).

⁸³ "The Creative Response In Economic History - Joseph A Schumpeter (Jeh, 1947)," *Issuu*, accessed July 25, 2013, <http://issuu.com/hichem.karoui/docs/the-creative-response-in-economic-history---joseph>.

⁸⁴ Joseph Alois Schumpeter, *The Theory of Economic Development: An Inquiry Into Profits, Capital, Credit, Interest, and the Business Cycle* (Transaction Publishers, 1961).

- ❖ Entrepreneur is a rare not a maximizer of calculating utility.
- ❖ Entrepreneur is a creature driven by instinctive motives.

About the profit, Schumpeter seen it as a residual not a return to the entrepreneur as factor of production.

Schumpeter in 1934 said about the entrepreneur that it is not a risk bearer.

According to (Acs and Armington, 2006), they said that Schumpeter ignored the competitors in the market, and he ignores different forces of competitors because they affect incumbent and overturn it to modern capitalist economies.

Through all these definitions, Schumpeter ideas were underwent to the continual development because according to several researchers as Simon, P. 2009 said also that his ideas are opaqueness until he arrived to say, “What Schumpeter really meant”.

4.4. Leader and motivation theory:

According to (Leibenstein, 1968), he said that entrepreneurship is the combination between leadership, motivation and the ability of resolve problems and risk taking and making them in gradual nature to an existing product and process⁸⁵.

4.5. Personal or psychological traits theory:

The principals of this theory characterized on the personal characteristics and said that the entrepreneur get special characteristics in his childhood (Simon Parker, 2009).

As a summary of the previous theories, we try to globalize them in the table 8:

Table 8: some interesting theories about the entrepreneur

Theory	Authors	content
Neoclassical tradition	Knight, 1921 ⁸⁶ Marshall, 1930 Schultz, 1980	They based on the notion that entrepreneur lead market into equilibrium.
Austrian tradition	Kirzner, 1973; 1997	Entrepreneur is a part of an ongoing disequilibrium process of indefinite or infinite duration.

According to Shane and Venkataraman (2000), they said that both of Schumpeter and Kirzner theories present different types of opportunities presented in the table below:

⁸⁵ Leibenstein, H. (1968). Entrepreneurship and development, American Economic Review, 58,

⁸⁶ Knight, *Risk, Uncertainty, and Profit*.

Table 9: differences between Schumpeter and Kirzner theories

Kirzner	Schumpeter
❖ The entrepreneur discover new opportunities	❖ The entrepreneur creates new opportunities.
❖ The entrepreneur moves the market towards an economic equilibrium consistent with existing information.	❖ The entrepreneur creates the prospects of entirely equilibrium.

According to Simon Parker, these previous theories seem obviously that none of them gives a complete identification of entrepreneurship.

This not means that these theories are wrong but in reality, there are not complete. For example, one can cite a specific theory from the previous ones to support a fixed viewpoint. However, none of them gives the whole definition about entrepreneurship at all.

5. Determinants of entrepreneurship:

Entrepreneurship has many determinants according to its relation with different sciences, the one that the others do not achieve to give a fixed definition for entrepreneur and entrepreneurship. Therefore, there are different studies about the determinants of entrepreneurship. According to (Lucas in 1978), he fined that entrepreneurial capability is one of the most important determinant of entrepreneurship⁸⁷. In addition, according to (Richard E. Kihlstrom, 1979) he found that risk aversion from the interesting determinants of entrepreneurship⁸⁸.

In general, there are different studies about the determinants of entrepreneurship, we can globalize all of the factors that enhance or affect the person to be entrepreneur in the function below:

Equation 1: Different determinants of entrepreneurship

$$z^* = (\pi - w, X_{huc}, X_{soc}, X_{risk}, X_{psy}, X_{dem}, X_{ind}, X_{mac}, X_{emp})$$

Where:

z^* : The latent preference to be entrepreneur. And

$z^* = 1 \Leftrightarrow$:the individual is an entrepreneur

$z^* = 0 \Leftrightarrow$:the individual is not an entrepreneur

π : Gross log entrepreneurial profit,

⁸⁷ Robert E. Lucas, "On the Size Distribution of Business Firms," *Bell Journal of Economics*, 1978.

⁸⁸ Richard E. Kihlstrom and Jean-Jacques Laffont, *A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion*, SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, 1979), <http://papers.ssrn.com/abstract=1505243>.

w : Wage,

$\pi - w$: Profit in entrepreneurship relative to wage income in paid employment,

X_{huc} : Human capital factors,

X_{soc} : Social capital factors,

X_{risk} : Risks factor (ex: individual risk aversion, the degree of the market risk),

X_{psy} : Psychological characteristics,

X_{dem} : Demographic characteristics,

X_{ind} : Industry specific factors,

X_{mac} : Macroeconomic factors

X_{emp} : Characteristics of employees.

There are two big and interesting questions that we might answer them through the study of these characteristics and this chapter, these two questions are:

1. Who becomes an entrepreneur? Moreover, why he want to become entrepreneur?
2. What are the influences of particular personal characteristics and environment factors?

5.1. Pecuniary and non-pecuniary incentives:

Individual want to make more money through becoming entrepreneur; but according to Schumpeter words (1934), "will to find a private kingdom ... to conquer:

- a. The impulse to fight,
- b. To prove oneself superior to others,
- c. To succeed for the sake,
- d. Not of the fruits of the success, but for the success itself.

Finally, there is the joy of creating, of getting things done, or simply of exercising one's energy and ingenuity"⁸⁹.

The table below shows the impact of these determinants in the individual to be entrepreneur:

⁸⁹ Schumpeter, *The Theory of Economic Development*.

Table 10: Summary of the determinants of entrepreneurship⁹⁰

Explanatory variables	No.+	No.—	No.0
1. Income differential	8	2	4
2. Age	83	6	14
3. Experience	24	1	2
4. Education	69	21	27
5. Risk aversion	0	11	3
6. Married/working spouse	52	9	8
7. Number of children	16	2	3
8. Ill health/disability	5	4	6
9. Entrepreneur parents	40	2	2
10. Technological progress	4	4	2
11. Unemployment			
Cross-section	22	14	18
Time series	33	5	2

Source: The Economic of Entrepreneurship, Simon Parker P 108

Notes:

No.+ : Signify positive coefficient,

No.— : Signify negative coefficient,

No.0: insignificant coefficient.

About the unemployment factor, when they have panel study with large N (N: number of observations) and small T (T: time), the variables classified as cross-section and when we have panel study with large T and small N, the variables classified as time series.

According to (Cassar, 2007), the entrepreneurs give low interest to financial motivation then in the step of starting the new business (create new ventures)⁹¹.

5.1.1. Pecuniary incentive and relative earnings ($\pi-w$):

The pecuniary incentives is from the most important incentives because it represent all the financial returns from being entrepreneur. Because in the professional life and business activities of entrepreneurs, there are entrants and sorties. Therefore, from the entrants of the production process there are tangible materials represented in raw materials and amortization and intangible materials such as skills, competencies, experiences plus employees. The aim of the entrepreneur from this process is to:

- Survive the life of enterprise,

⁹⁰ PARKER, *The Economics of Entrepreneurship*, 108.

⁹¹ Gavin Cassar, "Money, Money, Money? A Longitudinal Investigation of Entrepreneur Career Reasons, Growth Preferences and Achieved Growth," *Entrepreneurship & Regional Development* 19, no. 1 (2007): 89–107, doi:10.1080/08985620601002246.

- Hire worker,
- Get profit that is the financial revenue of entrepreneur through this process.

$(\pi-w)$: it is the different between:

π the profit that the entrepreneur get it from the production process,

w the wage that the entrepreneur will earn it as revenue from paid employment.

The difference show if the individual become entrepreneurs or not. We demonstrate that bellow:

- If $(\pi-w) \geq 0$, that is, mean the profit that the entrepreneur will earn from his own business is more than the wage if he works in a paid employment, in this situation the individual prefer automatically to entrepreneur because he get more money.

- If $(\pi-w) < 0$, in this situation the wage that the individual will earn from paid employment will be more that the profit from business activities, so it is likely for the individual to be paid-employer than entrepreneur.

5.1.2 Desire of independence and job satisfaction:

From the non-pecuniary incentives that it affects to be entrepreneur, we have being **your own boss** and the independence in the work place⁹² (Knight, 1921).

Many researchers as (Hakim, 1989) found that men give more important to independence in work than women⁹³. Because, from the characters of some people that is related with work is the independence in work, which is mean he works as he likes, in an indefinite time, an indefinite category or sector of work and all different measures of work.

According to (Taylor, 1996), he found that in the BHPS analysis in 1991, few entrepreneurs said that pay and security are two important aspects to stay in their jobs than paid employees⁹⁴.

Other entrepreneurs find that initiative and enjoyment of work itself are important for entrepreneurs rather for employees. Therefore, here we find the interest of the independence in work and not the short hours of work.

In addition, according to (Blanchflower and Oswald, 1998), they found that self-employed were very satisfied with their jobs than paid employees (and it looks in proportion 46% and 29% respectively)⁹⁵. Because for self-employed, they invest all what he get as skills,

⁹² Knight, *Risk, Uncertainty, and Profit*.

⁹³ Hakim, C. (1989). New recruits to self-employment in the 1980s, *Employment Gazette*, 97, pp. 286–97

⁹⁴ Taylor, M. P. (1996). Earnings, independence or unemployment: why become self-employed?, *Oxford Bulletin of Economics and Statistics*

⁹⁵ David Blanchflower and Andrew J. Oswald, *What Makes an Entrepreneur? Evidence on Inheritance and Capital Constraints*, Working Paper (National Bureau of Economic Research, February 1990), <http://www.nber.org/papers/w3252>.

powers, imagination in work because he will get the fruit of his ideas. However, for paid-employee, he cannot think more than the easiest way to do that work in the time.

According to (Benz and Frey, 2008), they discuss about the procedural utility where people focus their interest into both of outcomes and the process for this outcomes. For that, high levels of incomes not always reflect or explain the job satisfaction⁹⁶.

Therefore, we have all of:

- ✓ The promise of autonomy,
- ✓ Autonomy give job satisfaction,
- But
- ✓ Long hours can create conflict in the work life that can affect to reduce the life satisfaction through this work (self-employed).

5.2. Human capital:

In the human capital, we can find different factors. In this section, we touches three essential elements of the human capital that are:

1. Age,
2. Experience,
3. Formal education (level of instruction)

5.2.1 Age:

Question: How can the age affect to be entrepreneur?

The age element plays an important role, because the older people are more likely according to several researchers to be entrepreneur rather than younger ones for the reasons below:

- 1) The unavailability of physical and human capital requirement of entrepreneurship for younger workers.
- 2) The older individuals might choose to be entrepreneur to avoid the mandatory retirement provisions, which are sometimes founded in paid employment.
- 3) The younger individuals do not have time as older ones to do a better build of social and business network. Moreover, to have identified valuable opportunities in entrepreneurship that they may possible to perform it through learning about business environment.

From another side, we find that some people may include older ones are less attracted to be entrepreneurs for the reason:

⁹⁶ Matthias Benz and Bruno S. Frey, "Being Independent Is a Great Thing: Subjective Evaluations of Self-Employment and Hierarchy," *Economica* 75, no. 298 (2008): 362–383, doi:10.1111/j.1468-0335.2007.00594.x.

1) According to (Lévesque et al., 2002), older people are more risk-averse than the younger ones, and they may have tastes that shift away from the enterprises as they age. Nevertheless, the problem is in the work time because they are less capable to work for long hours that are undertaken by entrepreneurs⁹⁷.

2) According to (Miller, 1984), he predict in the job shopping theory that workers try riskier occupation like entrepreneurship when they are young⁹⁸.

3) According to (Polkovnichenko, 2003), he said that the human capital of the older people has lower discounted value and it provides less hedge against risk so the older people are less likely to be enter a risk occupational like entrepreneurship⁹⁹.

4) According to (Hintermaier and Steinberger, 2005), if entrepreneurship is risky and requires payments of sunk entry costs, younger entrepreneur have more time than older entrepreneurs to benefit from the returns and to amortize the entry costs¹⁰⁰.

From the previous reasons and according to (Lévesque and Minniti, 2006), they found that individuals are likely to be entrepreneur as they age, till a certain level and also the probability of becoming entrepreneur will decline with age. For that, many descriptive studies suggest that being entrepreneur is focused in the mid-career of the individuals' age i.e. between 35 years and 44 years old¹⁰¹.

5.2.2 Experience:

Age and experience are not synonymous in the professional life. Experience is measured by current age minus school leaving age but this definition is imperfect because it did not take in account the breaks and times after finishing studies and finding jobs (time of looking for job).

Experience shows all of:

- The productive impact of past-school training,
- Skills acquisitions,

Experience might promote entrepreneurship for different reasons; some of these reasons are related with the age. However, from there self-reasons, there are:

⁹⁷ Moren Lévesque, Dean A Shepherd, and Evan J Douglas, "Employment or Self-Employment: A Dynamic Utility-Maximizing Model," *Journal of Business Venturing* 17, no. 3 (May 2002): 189–210, doi:10.1016/S0883-9026(00)00063-X.

⁹⁸ Robert A. Miller, "Job Matching and Occupational Choice," *Journal of Political Economy* 92, no. 6 (1984): 1086–1120.

⁹⁹ Valery Polkovnichenko, "Human Capital and the Private Equity Premium," *Review of Economic Dynamics* 6, no. 4 (October 2003): 831–845, doi:10.1016/S1094-2025(03)00051-6.

¹⁰⁰ Thomas Hintermaier and Thomas Steinberger, "Occupational Choice and the Private Equity Premium Puzzle," *Journal of Economic Dynamics and Control* 29, no. 10 (October 2005): 1765–1783, doi:10.1016/j.jedc.2004.11.001.

¹⁰¹ Moren Levesque and Maria Minniti, *The Effect of Aging on Entrepreneurial Behavior*, SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, 2006), <http://papers.ssrn.com/abstract=1501579>.

- Learning, for example about business opportunities,
- Know how enterprises work in practice,
- According to (Shane, 2003), the experience includes training for fixed skills to exploit opportunities. From these skills, there are¹⁰²:
 - ✓ Selling,
 - ✓ Negotiating,
 - ✓ Managing,
 - ✓ Leading,
 - ✓ Planning,
 - ✓ Know how to make decision,
 - ✓ Know how to solve problems,
 - ✓ Organizing and know how to communicate.

The experience also provide according to (Jovanovic, 1982; Parker, 2007c), many information that help the nascent entrepreneurs to reduce the uncertainty level of new entrepreneurial opportunities.

According to (Shane, 2003), he said there are five types of experience that are:

- General business experience,
- Functional experience (marketing, product development and management),
- Industry experience,
- Startup experience,
- Vicarious experience.

There are also, who distinguish between different kinds of experience that are related with job such as:

- Experience in paid employment,
- Experience in entrepreneurship,
- Experience as boss or manager.

In addition, find how these experiences affect the worker to inter into the entrepreneurship (being self-employed).

For example, according to (Evans and Leighton, 1989a), they estimate that:

Previous self-employment experience had positive impact for the American men to be self-employed, but the paid employment had not any impact¹⁰³.

¹⁰² Scott Andrew Shane, *A General Theory Of Entrepreneurship: The Individual-Opportunity Nexus* (Edward Elgar Publishing, 2003).

¹⁰³ David S. Evans and Linda S. Leighton, "The Determinants of Changes in U.S. Self-Employment, 1968–1987," *Small Business Economics* 1, no. 2 (June 1, 1989): 111–119, doi:10.1007/BF00398629.

There are also dangerous kinds of experience that it shown in the both of EUROPE and US:

US: experience from drug dealing (Fairlie, 2002)¹⁰⁴.

Europe: experience from owning a proscribe business before the transition from socialism (Earle and Sakova, 2000; Aidis and van Praag, 2007).

According to (Kaufmann, 1999; Williams, 1999) they said that individual with best past of entrepreneurial experience and great of industry experience are more likely to create their own new ventures then to purchase a franchisee.

Their also:

- General work experience (Bhide,2000),
- Diversity of experience (Dunkelberg et al., 1987),
- In addition, we get the change from entrepreneurship to paid employment rather than unemployment.

5.2.3 **Formal education:**

According to (Casson, 1995), education play an important role in the improvement of the entrepreneurial abilities and the enhancement of the entrepreneurial judgment because through education, the individuals are provided by¹⁰⁵:

- Analytical abilities,
- Information about business opportunities,
- How to understand the market and the process of entrepreneurship.

This formal education is associated with:

- General research skills;
- Foresight;
- Imagination, computational and communication skills.

According to (Casson, 2003), he said the skills that there make the entrepreneur a successful one are different from the skills that are embodied in normal qualification¹⁰⁶.

According to (Le, 1999), he found that the education increases ability for the educated people to be paid employed rather than self-employed, for that it did not seem as a positive factor to enhance people to become entrepreneur.

From the table 10 above, we find that the majority of the studies find a positive relationship between educational attainment and the probability of being entrepreneur.

¹⁰⁴ Robert W. Fairlie, "Drug Dealing and Legitimate Self-Employment," *Journal of Labor Economics* 20, no. 3 (2002): 538–567.

¹⁰⁵ Casson, M. (1995). *Entrepreneurship and Business Culture*, Aldershot, Edward Elgar

¹⁰⁶ Mark Casson, *The Entrepreneur: An Economic Theory* (Rowman & Littlefield, 1982).

Through some previous econometric studies about the relationship between the education and entrepreneurship, we get:

According to (Henley, 2004), he focus his research's in the quality of studies through BHPS data and he found that pupils in high-quality British public-sector secondary school (grammar school) are more likely to ne entrepreneur than pupils in other schools.

From another side and through many studies of researchers like Cowling et al. (2004), they found that vocational qualification and apprenticeship training affect the participation in entrepreneurship rather than purely academic qualification.

According to Bates (1995, 1997), he found that education affect the entrepreneurship in two sides, i.e. the education get a positive and significant effect on the probability of being self-employed especially in the skilled services.

The education also affects the entrepreneurship negatively and gets a significant effect in the construction sector. Moreover, it gets an insignificant effect of the probability of becoming self-employed in the manufactory or wholesaling.

It can also look for the ethnic effect of education in entrepreneurship because according to (Borooah and Hart, 1999), they found positive effect in the British whites and a negative effect for the British Indian to be self-employed¹⁰⁷.

Comparing between both of USA and EU, according to (Blanchflower, 2004) he found a positive effect of education to be self-employed in USA data and a negative effect in EU data¹⁰⁸.

With all this effects, it can also find different externalities that effect and can amplify the impact of HC (Human Capital) on entrepreneurship; there is entrepreneurship education that is mean training and education specifically about entrepreneurship i.e. get training and study about entrepreneurship.

5.3. Social capital:

The factor of social capital is used in many empirical studies of entrepreneurship because it gets a direct affect to entrepreneurship. Social capital might be used to compensate for the limited and human capital and financial capital.

According to Davidsson and Honig (2003), 'social capital refers to the ability of actors to extract benefits from their social structures, networks and relationships'¹⁰⁹.

¹⁰⁷ Vani K. Borooah and Mark Hart, "Factors Affecting Self-Employment among Indian and Black Caribbean Men in Britain," *Small Business Economics* 13, no. 2 (September 1, 1999): 111–129, doi:10.1023/A:1008134627296.

¹⁰⁸ David G. Blanchflower, *Self-Employment: More May Not Be Better*, Working Paper (National Bureau of Economic Research, February 2004), <http://www.nber.org/papers/w10286>.

¹⁰⁹ Per Davidsson and Benson Honig, "The Role of Social and Human Capital among Nascent Entrepreneurs," *Journal of Business Venturing* 18, no. 3 (May 2003): 301–331, doi:10.1016/S0883-9026(02)00097-6.

Social capital can exist in different levels, example:

a) the country level:

In the degree of trust in government and other institutions,

b) the community level:

The quality of social networks within the locality,

The social networks can involve all of family, communities and organizational relationships.

According to Abell et al. (2001), social capital:

- ❖ Give social legitimacy to entrepreneurship,
- ❖ Reveals information about opportunities, customers, suppliers and competitors,
- ❖ Facilitate the access to direct resources.

The social capital comprise strong ties or relationships and in another side weak ties and relationships. In the table below, I try to define both of these two sides of relations:

Table 11: Different ties in social relations

Strong ties	Weak ties
<p>Come from close relationships as:</p> <ul style="list-style-type: none"> ❖ Family, ❖ Close friend <p>i.e. people who get the ability to leveraging support and trusting needed for resources acquisitions¹¹⁰.(Brüderl and Preisendörfer, 1998)</p>	<p>I.e. loose relationship with former business contacts, acquaintances and members of business networks such as trade associations or guilds¹¹¹. (Parker,2008b)</p>

Source: Brüderl and Preisendörfer, 1998 and Parker,2008

According to Glaeseret al. (2002), they propose different perspective of social capital that are more productive in entrepreneurship rather than in paid employment. These prepositions are observed in the table below:

¹¹⁰ Josef Brüderl and Peter Preisendörfer, "Network Support and the Success of Newly Founded Business," *Small Business Economics* 10, no. 3 (May 1, 1998): 213–225, doi:10.1023/A:1007997102930.

¹¹¹ Simon C. Parker, "The Economics of Formal Business Networks," *Journal of Business Venturing* 23, no. 6 (November 2008): 627–640, doi:10.1016/j.jbusvent.2008.01.003.

Table 12: Observations about social capital and implications for entrepreneurship

Observation	Implications for entrepreneurship
1) Social capital first rises, then falls with age.	- The different effects of age in entrepreneurship that is discussed before.
2) Social capital declines with expected mobility,	- Entrepreneurs are less mobile than employee
3) Social capital is associated with higher returns to skills,	- As residual claimants, entrepreneurs should obtain more social capital
4) Social capital is higher among homeowners	- Higher owner-occupier rates among Entrepreneurs
5) Social connections decline with social distance	- Entrepreneurship is more common in urban than in rural locations
6) Social and human capital investments are complements	- Failure to control for social capital in entrepreneurship research is likely to - overstate the role of human capital

Source: Simon C. Parker, The economics of entrepreneurship

Other researchers as Bosma et al. (2004) find that membership in societies, clubs and churches and other networks of formal and informal entrepreneur enhance entrepreneur profit, growth performance and survival prospects¹¹².

From the different problems that they beset to understand the impact of social capital in the entrepreneurship are:

- The limited data and lack of agreement about the measurement of social capital through the poor quality of empirical proxies for social capital,
- The correlation between social capital, unobserved ability, human capital and financial capital.

As Licht and Siegel put it: ‘improved identification strategies are needed to better delineate the mechanism by which investments in social capital lead to sustainable competitive advantage’¹¹³ (2006, p. 531), so they found that social capital could be competitive advantage.

5.4. Psychological traits for entrepreneurs:

5.4.1 Risk attitudes and risk:

The risk trait gets an important attention from researchers about entrepreneurship, because as we know entrepreneurship is taking risks about the uncertain future for all of raw

¹¹² Niels Bosma et al., “The Value of Human and Social Capital Investments for the Business Performance of Startups,” *Small Business Economics* 23, no. 3 (October 1, 2004): 227–236, doi:10.1023/B:SBEJ.0000032032.21192.72.

¹¹³ Amir N. Licht and Jordan I. Siegel, “The Social Dimensions of Entrepreneurship,” *Oxford Handbook of Entrepreneurship* (2006).

materials, technologies and competitors. For that, different empirical strategies to measure the risk through the psychological traits of the entrepreneur¹¹⁴:

- a. Making univariate comparison between entrepreneurs and non-entrepreneurs through hypothetical survey question about risk preference.
- b. Comparisons based on lifestyle choices deemed indicative of risk aversion
- c. Econometric estimates of binary choice models of entrepreneurship using hypothetical survey responses to measure risk attitudes.

To discuss the previous empirical strategies, several researches we can summarize them in the table number 13 below:

Table 13: The entrepreneur and risk taking

Authors	Results
Brockhaus (1980)	There is no significant difference between entrepreneurs and managers risk attitudes.
Shaver and Scott (1991)	The entrepreneurs are less risk-averse than non-entrepreneurs
Stewart and Roth (2001)	entrepreneurs appear to be significantly less risk-averse than managers, the difference being greatest for entrepreneurs whose primary goal is venture growth rather than merely income generation

The three previous studies where the authors use the Univariate strategy, they find results that is there is a relation or there is not any relation, but most lately and according to Miner and Raju; in 2004 they found that Univariate evidence about the risk attitudes of entrepreneur remains inconclusive¹¹⁵.

5.4.2 Over-optimism and over-confidence

Adam Smith observed, ‘The overweening conceit which the greater parts of men have of their abilities is an ancient evil remarked by the philosophers and moralists of all ages. Their absurd presumption in their own good fortune has been less taken notice of [but is], if possible, still more universal...The chance of gain is by every man more or less overvalued and the chance of loss by most men undervalued and by scarce any man valued more than it is worth’(1776 [1937, p. 107])

According to Coelho et al. (2004), they said that personal wealth of the most entrepreneurs gets relations with:

¹¹⁴ PARKER, *The Economics of Entrepreneurship*, 121–122.

¹¹⁵ John B. Miner and Nambury S. Raju, “Risk Propensity Differences Between Managers and Entrepreneurs and Between Low- and High-Growth Entrepreneurs: A Reply in a More Conservative Vein,” *Journal of Applied Psychology* 89, no. 1 (2004): 3–13, doi:10.1037/0021-9010.89.1.3.

- Their businesses,
- Creating obvious emotional commitment,
- Set up a new business.

5.4.3 Other psychological trait variables

Many researchers in the early years focused their studies in the psychological variables. These variables are the ones that enhance the individual to choose between become entrepreneur or not. In addition, (Begley and Boyd, 1987) who make Univariate statistical comparison about the psychological factor between entrepreneur and non-entrepreneur. According to (Amit et al, 1993), they singled out four traits that have attracted substantial research interest that are risk attitudes and the three following ones:

1st. Need for achievement:

From the most important characteristics, that the individual want to achieve it through being entrepreneur is the need for achievement (n-Ach) according to McClelland (1961) because they find it (n-Ach) as one of key of entrepreneurs successful. From McClelland words: ' a society with a generally high level of n-Ach will produce more energetic entrepreneurs who, in turn, produce rapid economic development'¹¹⁶ (1961, p. 205).

In addition, he said that the entrepreneur:

- Proactive and committed to the others,
- Like to take personal responsibility for their decision,
- Prefer decision involving a moderate amount of risk,
- Desire feedback on their performance,
- Dislike repetitive and routine work.

2nd. Internal locus of control:

With the previous traits, many psychologist insist about the “high internal locus of control” that is a large category of the entrepreneur’s innate look that their performances related directly with their own actions rather than external factors.

For example, when entrepreneurship offers greater scope for the individuals to exercise their own discretion at work than paid employment does, for that they with high internal locus of control are more likely to be entrepreneur. According to other authors as Sexton and Bowman, they found that high locus of control is not unique for entrepreneurs, but it can also touch all individuals who are relevant for successful business managers’ and other employees too.

¹¹⁶ David C McClelland, *The Achieving Society* (Mansfield Centre, Conn.: Martino Publishing, 1961), 205.

3rd. **Tolerance of ambiguity:**

From the whole capacities, that the entrepreneur has than other persons is how to deal with the ill-defined or ambiguous environment. According to (Wenneker set al.'s, 2005), many entrepreneurs refer to avoid uncertainty and the majority of them dislike ambiguity. Other authors like (Bhide, 2000) claim that the entrepreneur's self-confidence is distinct from the risk tolerance and their bases lies on the roots of ambiguity tolerance.

With the three previous traits, other authors give other traits and they said that the entrepreneur:

- According to (Boyd, 1984; Caliendo and Kritikos,2008), they exhibit the “Type A” behavior that it characterized by:
 - Competitiveness
 - Assertiveness,
 - Aggression,
 - Striving for achievement,
 - Impatience.
- Others like Shane in 2003 said that the entrepreneur get traits more than non-entrepreneur as¹¹⁷:
 - Great level of self-efficacy and intuition,
 - More intelligent,
 - Perceptive and creative and less likely to identify risks.
- According to (Zhao and Seibert, 2006), they found that the entrepreneur in comparing achieve¹¹⁸:
 - Higher scores for conscientiousness and openness to experience than managers,
 - Similar scores for extroversion
 - Lower scores for neuroticism and agreeableness

5.5. **Demographic and industry characteristics:**

In this section, we will look for the effect of the three interesting demographic characteristics that are presented in the three characteristics below:

¹¹⁷ Shane, *A General Theory Of Entrepreneurship*.

¹¹⁸ Hao Zhao and Scott E. Seibert, “The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review.,” *Journal of Applied Psychology* 91, no. 2 (2006): 259–271, doi:10.1037/0021-9010.91.2.259.

5.5.1. Marital status:

In this point, we will discuss the effect of the spouse in the creation of venture in comparison between the married entrepreneurs with the single ones. Some researchers look for the following reasons:

- a. The spouse can help her husband or his wife to create venture by providing start-up capital,
- b. The spouse can also make trustworthy workers, and it is less likely to shirk and leave the spouse alone facing the problems¹¹⁹.(Borjas,1986)
- c. According to (Bosma et al., 2004), the spouse can play an interesting role in offering valuable emotional support¹²⁰.
- d. Parker said that the spouse who is in business could affect and enhance the other in their own family to start business¹²¹.
- e. Entrepreneurs are older on average, and older people are more likely to be married.

Returning to the table1 that it show the different determinants of entrepreneurship, individuals who are or who become entrepreneurs are more likely to have been married, and with dependent children. Other interesting point related with this question:

Question: why so many married couples are both entrepreneurs?

There is numerous studies show that if in a family the husband is an entrepreneur, his wife significantly more likely to become entrepreneur.

1st.Family background:

The family members play an important role in enhancing the individual to be entrepreneur because according to (Fairlie and Robb, 2007) who make calculation based on 1992 CBO data, they find that more than the half (51.6%) of all business owners had a self-employed family member prior to starting their business¹²².

About the son, according to (Dunn and Holtz-Eakin, 2000), in a family with an entrepreneur parent double the probability of the son to become self-employed¹²³.

¹¹⁹ George J. Borjas, *The Self-Employment Experience of Immigrants*, NBER Working Paper (National Bureau of Economic Research, Inc, 1986), <http://ideas.repec.org/p/nbr/nberwo/1942.html>.

¹²⁰ Bosma et al., "The Value of Human and Social Capital Investments for the Business Performance of Startups."

¹²¹ Simon C. Parker, "Entrepreneurship among Married Couples in the United States: A Simultaneous Probit Approach," *Labour Economics* 15, no. 3 (June 2008): 459–481, doi:10.1016/j.labeco.2007.03.004.

¹²² Robert W. Fairlie and Alicia Robb, "Families, Human Capital, and Small Business: Evidence from the Characteristics of Business Owners Survey" (December 1, 2005), <http://escholarship.org/uc/item/6td6x9ht>.

¹²³ Thomas Dunn and Douglas Holtz-Eakin, *Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links*, Working Paper (National Bureau of Economic Research, July 2000), <http://www.nber.org/papers/w5622>.

From the several reasons according to the parent who is an entrepreneur that it might affect the probability of being self-employed individual through Fairlie and Robb 2007 research are¹²⁴:

- The proximity to a family-owned business helps the entrepreneur to gain general business experience and managerial experience that it can help him in his departure, that it globalized in all of (“general business human capital”)
- Acquisition of industry-specific or firm-specific business experience obtained from proximity to a family owned business possibly including business networks, that it specialized in the (“the specific business human capital”),
- Provision of cheap finance by parents to help their offspring to overcome borrowing constraints,
- Correlated preferences for entrepreneurial activities among family members perhaps enhanced by favorable family role models.

2nd. **Industry characteristics:**

The industry characteristics get a direct effect to the individual to be entrepreneur because each person has its own abilities and skills that it wants to exploit them in the activity.

Entrepreneurs are likelier to enter service rather than manufacturing industries in part because:

- Many researchers as Van Stel et al. in 2007 found that from the facilities that it encourages the entrepreneur to enter in a specific sector are the entry barriers and minimum efficient scale are lower in the former than the latter, making sustainable entry easier¹²⁵.
- Other reasons is the size of industries and markets because there are many entrepreneurs who tend to be found in larger, more profitable and more segmented industries and markets¹²⁶. (Hause and Du Rietz,1984)
- According to (Nocke,2006), from the natural of entrepreneur is the preference of entering to the markets ,but as we know that from the characteristics of the entrepreneur is taking risks so they also quit these market more frequently owing to stronger competitive pressure¹²⁷.

¹²⁴ PARKER, *The Economics of Entrepreneurship*, 134–135.

¹²⁵ André van Stel, David J. Storey, and A. Roy Thurik, “The Effect of Business Regulations on Nascent and Young Business Entrepreneurship,” *Small Business Economics* 28, no. 2–3 (March 1, 2007): 171–186, doi:10.1007/s11187-006-9014-1.

¹²⁶ John C. Hause and Gunnar Du Rietz, *Entry, Industry Growth and the Micro Dynamics of Industry Supply*, Working Paper Series (Research Institute of Industrial Economics, 1983), <http://ideas.repec.org/p/hhs/iuiwop/0108.html>.

¹²⁷ Volker Nocke, “A Gap for Me : Entrepreneurs and Entry,” *Journal of the European Economic Association*, September 2006.

5.6. Macroeconomic factors and entrepreneurship:

With the previous characteristics, also other factors touch the entrepreneurship and can affect it directly from the macro side. These factors are focused on the macroeconomic that contain all of technology, knowledge, business cycle, and unemployment plus other regional factors. We will give some details for all of them according to previous research.

5.6.1. Technology as a determinant of entrepreneurship:

As we know, the first key for the development and growth in all sectors of activities is the technology. Because it is used in all activities, all sides, and it is always in development and growth to facilitate the ways to do the jobs, without forgetting that technology is used also in medicines as implementing the artificial silicon retina chip in eyes of three people blinded by retinal disease to help them to see¹²⁸. Therefore, technology gets its own improvement to derive growth that it measured in term of their impact on TFP “Total Factor Productivity”. They have seen the role of technology in the growth that it touched in the production level with all inputs unchanged. A big party of research’s about technology focuses in the computer role because according to many researchers as Fairlie in 2006 find that computer usage in America increase the adults people to be business owners¹²⁹.

5.6.2. Knowledge spillovers and growth:

The importance of knowledge appears in all sectors and sciences and in entrepreneurship, because the entrepreneur exploits the knowledge spillovers to create his own business and to generate growth in the economy. Many of the entrepreneurs get this knowledge from the universities and laboratories, for that we can consider the role of the university in forming the entrepreneurs.

Also, many industries and regions with greater investments in knowledge creation as higher shares of the labor force employed as scientist or engineers also possess above average venture start-up rates, especially those where small firms undertake a larger share of investment¹³⁰.

5.6.3. Entrepreneurship and the business cycle:

To look between the entrepreneurship and business cycle, there is a greater effect between them, because the entrepreneur bears different risks to produce a product or give a

¹²⁸ European Institute for Technology Management, *Bringing Technology into the Boardroom* (Basingstoke: Palgrave Macmillan, 2003), 9.

¹²⁹ Robert W. Fairlie, “The Personal Computer and Entrepreneurship,” *Manage. Sci.* 52, no. 2 (February 2006): 187–203, doi:10.1287/mnsc.1050.0479.

¹³⁰ David B. Audretsch and Max Keilbach, *The Localization of Entrepreneurship Capital - Evidence from Germany*, SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, July 2, 2007), <http://papers.ssrn.com/abstract=1021161>.

service implies that changes in the number of entrepreneurs can lead to a major impact on the output in product or services by amplifying aggregate shocks.

According to Rampini (2004), he proposed risk based reason about the number of entrepreneurs and its willingness to be pro-cyclical for two reasons that are related with the situation of shocks¹³¹:

1st. Shocks to the economy are favorable:

There will be an increase in all measures of productivity and wealth in entrepreneurship, this situation makes the agent more likely to bear more risks and enhance the other to become entrepreneur. It also enhances the entrepreneurs to supply more efforts and invest in risky projects.

2nd. Shocks to the economy are unfavorable:

In comparing with the previous situation, the opposite process will be occurs that make all of wealth, investment and entrepreneurship will be declined.

5.6.4. Unemployment:

The global aim of our research is to understand the relationship between unemployment and entrepreneurship. Because many research's tend to find solution through using entrepreneurship to reduce unemployment. To achieve these solutions, it is necessary to take one of the two channels below:

First, there is the direct effect of removing a formerly unemployed person from the official unemployment register.

Second, there is the indirect effect of eventual job creation by entrepreneurs who hire outside Labor.

Unemployment can affect the entrepreneurship in two opposite ways:

- Recession (unemployment) push,
- Prosperity pull.

Moreover, each one has its own hypothesis. From the recession push theories, unemployment get a positive effect to the entrepreneurship through the following points:

- Unemployment reduces the opportunities of gaining paid employment,
- Unemployment reduces the expected gains from job search,
- For that, it pushes people to entrepreneurship.

From another side, the unemployment affects the entrepreneurship through recession push as:

¹³¹ Adriano A Rampini, "Entrepreneurial Activity, Risk, and the Business Cycle," *Journal of Monetary Economics* 51, no. 3 (April 2004): 555–573, doi:10.1016/j.jmoneco.2003.06.003.

- According to (Binks and Jennings, 1986), the firms close down in recession that it pushes the availability and affordability of second-hand capital equipment increases so the entry barriers to entrepreneurship will be reduced¹³².

Through the prosperity pull hypothesis and with high rates of unemployment, the unemployed people do not find wages to buy products so the products or services of entrepreneur face lower rates of demand than previous situation. Therefore, it reduces incomes of entrepreneurship that it may reduce also the capital of the enterprises that it increases the rates of bankruptcy. One of the results is pulling the individual out of entrepreneurship. In this time, the entrepreneurship will be riskier because the fails of venture.

In addition, in the individual level, the unemployment could be associated with low levels of human and financial capital needed for successful entry into entrepreneurship. Comparing with the recession push hypothesis, these hypotheses imply negative relation between entrepreneurship and unemployment.

About the measurement of the relationship between entrepreneurship and unemployment, there are two major methods to measure:

1st. **Cross-section evidence:**

In developed countries, there are some transitions from unemployment to self-employment described below:

- ✓ According to (Storey, 1982), the most person who are entrepreneur were paid employment, this operation reflect greater stock of employees than unemployed do¹³³.
- ✓ According to the US evidence (Evans and Leighton, 1990), comparing between unemployed people and paid-employed people, they found that the proportion of unemployed persons are more likely to be self-employed rather than paid-employed persons¹³⁴.
- ✓ From another researchers as (Cowling and Taylor, 2001), they found the most unemployed people like to stay unemployed or being paid-employed than becoming self-employed¹³⁵.

For the unemployed people, the period of staying unemployed get an important role to push the individual to become entrepreneur. Most empirical studies turned around the effect of unemployment duration in the ability to become entrepreneur. According to Moore and

¹³² Binks, M. and A. Jennings (1986). Small firms as a source of economic rejuvenation, in J. Curran et al (eds.), *The Survival of the Small Firm*, Vol. 1, Aldershot, Gower, pp. 19–37

¹³³ D. J. Storey, *Entrepreneurship and the New Firm* (Croom Helm, 1982).

¹³⁴ David S. Evans and Linda S. Leighton, "Small Business Formation by Unemployed and Employed Workers," *Small Business Economics* 2, no. 4 (December 1, 1990): 319–330, doi:10.1007/BF00401628.

¹³⁵ Marc Cowling and Mark Taylor, "Entrepreneurial Women and Men: Two Different Species?," *Small Business Economics* 16, no. 3 (May 1, 2001): 167–175, doi:10.1023/A:1011195516912.

Mueller, they found that the unemployment durations are associated with probability of becoming entrepreneur (transition from unemployed to self-employed)¹³⁶.

Another empirical study with Alba-Ramirez in 1994, he estimates that:

In USA, Self-employment increases with 0.15% in the increase of 1% in unemployment duration and with 0.17% in Spain¹³⁷.

According to Cowling and Mitchell (2001), they found that the unemployment duration touch the rate of becoming entrepreneur more than the number of unemployed people.

In contrast and according to different researchers as Farber 1999, the Job Losers according to the US evidence in previous 3 years are less likely to be self-employed with 3% than the non-losers¹³⁸.

2nd. Time-series and panel-data evidence:

Through the time series studies and according to many empirical studies, they found that there is a direct positive effect of unemployment rates (for regional and national side) on self-employment rates, that it support the recession push hypothesis .

In addition, empirical studies with panel data evidences supports the recession push hypothesis according to the advanced academic qualification of the workers, as well as for individual where their parents are self-employed¹³⁹.

About the panel data studies, there are two important types of panel studies:

1. The first one: using relatively large cross-section dimension,
2. The second one: using relatively large time series dimension,

5.6.5. Regional factors:

Differences in regions affect the rates of entrepreneurship. These differences are seen in specified regions as:

- Administrative regions,
- Labor market areas,
- Cities and neighborhoods.

From the different characteristics of regions that affect entrepreneurship are:

- Level of demands,

¹³⁶ Carol S. Moore and Richard E. Mueller, "The Transition from Paid to Self-Employment in Canada: The Importance of Push Factors," *Applied Economics* 34, no. 6 (2002): 791–801, doi:10.1080/00036840110058473.

¹³⁷ Alfonso Alba, *Self-Employment in the Midst of Unemployment : The Case of Spain and the United States*, Open Access publications from Universidad Carlos III de Madrid (Universidad Carlos III de Madrid, 1994), <http://ideas.repec.org/p/ner/carlos/infohdl10016-4564.html>.

¹³⁸ Henry S. Farber, "Alternative and Part-Time Employment Arrangements as a Response to Job Loss," *Journal of Labor Economics* 17, no. 4 (1999): S142–69.

¹³⁹ Hannu Tervo, "Regional Unemployment, Self-Employment and Family Background," *Applied Economics* 38, no. 9 (2006): 1055–1062.

- Level of worker education,
- Level of concentrations of capital-intensive industries.

According to many previous researches as Rosenthal and Strange in 2003, they show that despite the risks about the collocation that it enables firms to expropriate the ideas of new entrant's technologically, the highest new firm formation rates are found in regions with high proportion of employment in small firms¹⁴⁰.

Many empirical studies as Reynolds 1994, from the important determinants of the regional new firm formation rates, there are¹⁴¹:

- High rates of in-migration,
- Rapid growth in regional incomes and population,
- High levels of employment specialization and population densities.
- The local government expenditures and assistant programs appear to have limited effect in the regional firm birth rates.
- The housing wealth,
- Society plenty of well-educated people and college drop-out,
- Number of older citizens,
- Industrial structure characterized by low capital intensities and factor cost,
- Plentiful access to finance

This approach of identifying different regional characteristics suffers from both conceptual and empirical drawbacks. We found that on the conceptual front:

- Less entrepreneurial regions tend to have low stocks of human capital and hence wages ,
- Many entrepreneurs will move from expensive high-entrepreneurship regions to start new firms in low entrepreneurship where there is less competition and lower cost based to seize profitable opportunities,
- Parwada said that local entrepreneurs have greater access to finance than the non-locals do¹⁴².
- Most entrepreneurs operate businesses whose main customer base is in the immediate or close locality.

¹⁴⁰ Stuart S. Rosenthal and William C. Strange, "Geography, Industrial Organization, and Agglomeration," *Review of Economics and Statistics* 85, no. 2 (May 1, 2003): 377–393, doi:10.1162/003465303765299882.

¹⁴¹ Paul Reynolds, "Autonomous Firm Dynamics and Economic Growth in the United States, 1986–1990," *Regional Studies* 28, no. 4 (1994): 429–442, doi:10.1080/00343409412331348376.

¹⁴² Jerry T. Parwada, *The Genesis of Home Bias? The Location and Portfolio Choices of Investment Company Start-Ups*, SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, March 1, 2005), <http://papers.ssrn.com/abstract=676803>.

Concerning the empirical fronts, there are many problems and drawbacks related with the links between the start-ups and regional conditions, and the existed don't explain just a fraction of actual regional variation in entrepreneurship and it omit much variables that are hard to measure as: local culture, social norms and institutional restrictions.

With the previous regional rates of entrepreneurship, there are other rates based on the notions of externalities that can take several forms as these forms below:

1st. Information spillovers and social ties:

According to several authors as Rocha and Sternberg in 2005, they found that entrepreneurs create information spillovers by signaling information about opportunities and resource requirements to the other latent entrepreneur through social networks¹⁴³. This information can help to resolve the related ambiguities to new venture creation by:

- Reducing uncertainty,
- Advertise role models that it increases awareness of perceived net benefits from entrepreneurship,
- Perpetuate favorable social norms which legitimize entrepreneurship,
- Affect non-pecuniary aspects of occupational choice.

2nd. Knowledge spillovers:

Knowledge spillovers tend to be spatially concentrated partly according to the costs of transmitting knowledge, because these costs especially the tacit knowledge will increase according to the distant. For that, to minimize the costs the entrepreneurs exploit the knowledge spillovers locally. For that Klepper in 2006 explain the well-known of spin-offs to locate close to their geographic roots, which in turn might explain: industry clustering without needing to appeal to alternative explanations¹⁴⁴.

3rd. Intergenerational transmission:

The intergenerational transmission is seen in the transmission of information, knowledge and attitudes from self-employed parents to their offspring, as we seen before that the parents and as in the table 1, they influence directly and positively the of their son or daughter ability to be self-employed if they were self-employed or they are stile self-employed.

¹⁴³ Hector O. Rocha and Rolf Sternberg, "Entrepreneurship: The Role of Clusters Theoretical Perspectives and Empirical Evidence from Germany," *Small Business Economics* 24, no. 3 (April 2005): 267–292, doi:10.1007/s11187-005-1993-9.

¹⁴⁴ Peter Thompson and Steven Klepper, *Submarkets and the Evolution of Market Structure*, Working Paper (Florida International University, Department of Economics, 2006), <http://ideas.repec.org/p/fiu/wpaper/0303.html>.

4th. Agglomeration benefits:

The agglomeration gets many benefits for the entrepreneurs because through the geographic concentration of ventures reduces the average of transaction costs for each entrepreneur that it facilitate the efficient and rapid transfers of technical knowledge and skills. In addition, it encourages the development of specialized services that it enhances new firms to locate nearby. We found also the Agglomeration entrepreneurial activity or what we can say “Cluster” as in Silicon Valley. The clusters get also benefits from the following favorable factors:

- ✓ A benign regulatory regime,
- ✓ The proximity of advanced research universities and institutes that are well connected to the industry,
- ✓ The availability of flexible workforce,
- ✓ The availability of mechanisms for maintaining global linkages,
- ✓ Access to venture capital,
- ✓ Join formal or informal associations (networks) that they influence the social capital and foster the collective learning for the whole cluster.

In this side of regions, some empirical studies make comparisons between the urban and regional locations. They found that urban areas:

- Enjoy lower communication and transaction costs with respect to customers and suppliers and are associated with larger, denser markets with higher average incomes.
- Enabling entrepreneur to reap scale economies and exploit opportunities that might otherwise not be cost-effective.
- Abundance of production factors, knowledge spillovers and specialized services in urban areas.
- Both of land and labor can be more expensive in urban areas,
- In the other side, there are fewer opportunities of paid-employment in rural areas that it increase the attractiveness of new firm creation there,
- Urban ventures generate the highest average entrepreneurial earnings and new firm growth rates,
- The transition in and out self-employment in rural areas is more than in the urban because the scarce opportunities of paid-employment in rural areas make self-employment an unstable form of employment of last resort¹⁴⁵.

¹⁴⁵ Hannu Tervo, “Self-Employment Transitions and Alternation in Finnish Rural and Urban Labour Markets,” *Papers in Regional Science* 87, no. 1 (2008): 55–76.

As a summary of all this factors that affect the individual to be entrepreneurs, William Bygrave & Andrew Zackarakis try to collect them in this table below:

Table 14: The 10 Ds The most important characteristics of a successful entrepreneur¹⁴⁶

Dream	Entrepreneurs have a vision of what the future could be like for them and their businesses. Moreover, more important, they have the ability to implement their dreams.
Decisiveness	They do not procrastinate, they make decision swiftly, and their swiftness is a key factor in their success.
Doers	Once they decide on a course of action, they implement it as quickly as possible.
Determination	They implement their ventures with total commitment. They seldom give up, even when confronted by obstacles that seem insurmountable.
Dedication	They are totally dedicated to their businesses, sometimes at considerable cost to their relationships with friends and families. They work tirelessly. Twelve-hour days and seven-day workweeks are not uncommon when an entrepreneur is striving to get a business of the ground.
Devotion	Entrepreneurs love what they do. That love sustains them when the going gets tough. Moreover, it is love of their product or service that makes them so effective at selling it.
Details	It is said that the devil resides in the details. That is never truer than in starting and growing a business. The entrepreneur must on top of the critical details.
Destiny	They want to be in charge of their own destiny rather than dependent on an employer.
Dollars	Getting rich is not the prime motivator of entrepreneurs; money is more a measure of success. Entrepreneurs assume that if they are successful they will be rewarded.
Distribute	Entrepreneurs distribute the ownership of their businesses with key employees who are critical to the business.

Source: Understanding the Entrepreneurial Process: a Dynamic Approach.

6. Importance of entrepreneurship:

The entrepreneurship face an important growth in the early years, this importance touch all sides of life: social, economic and others. The entrepreneurship affect through different principal ways¹⁴⁷, in the points below, we try to demonstrate the importance of the entrepreneurship to understand the main domain that the entrepreneurship affects them:

¹⁴⁶ Vânia Maria Jorge Nassif, Alexandre Nabil Ghobril, and Newton Siqueira da Silva, "Understanding the Entrepreneurial Process: A Dynamic Approach," *BAR - Brazilian Administration Review* 7, no. 2 (June 2010): 213–226, doi:10.1590/S1807-76922010000200007.

¹⁴⁷ Donna J. Kelley, Slavica Singer, and Mike Herrington, *GEM 2011 Global Report*, Global Entrepreneurship Monitor, 2012, 13.

6.1. Generating employment and economic growth¹⁴⁸:

According to (Thurik et al., 2008), the entrepreneurship is the source of creating employment and economic growth. Creating employment is faced in the growth of the number of enterprises, this later need more work force to produce. For that, we will discover that the number of employment will grow positively with the number of enterprises. Another importance through the creation of the enterprises and creation employment, it will push also the road of economy to the growth because it will affect all of the wage of workers, the transaction in the market, capital. All these factors push the level of the economy to the growth.

6.2. New innovations with new products or new services¹⁴⁹:

From the different definition of entrepreneurs, there is the definition of Schumpeter who find that the entrepreneur as the person who produce or create new product and services, or he use innovative way in process of production

6.3. Internationalization:

From the important characteristics of the entrepreneurs is to taking risks. For that, one of these risks is to inter new international markets and selling his products in these markets.

6.4. Increase in labor demand:

From the important results of entrepreneurship in the both micro and macro level of economy is creating the increase in labor demand, because entrepreneurship represents the number of enterprises in the society. In these enterprises, one of the most important forces is the production cycle is the labor force. For that, we consider that there is a direct positive relationship between the entrepreneurship and the labor force in a society.

6.5. Mitigate the unemployment:

Through the growth in the number of enterprises in a fixed economy, the rate of employment will be increased according to the positive relationship between employment and entrepreneurship. For that, the individuals who were looking for working in the past will find it in these new enterprises the matter that it push the number of unemployed people to decrease. Therefore, the rate of unemployment will decrease automatically in the growth of entrepreneurship in a fixed society.

¹⁴⁸ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?"

¹⁴⁹ Stephan F. Gohmann and Jose M. Fernandez, "Proprietorship and Unemployment in the United States."

6.6. Entrepreneurs and new product or a new production process¹⁵⁰.

According to (Zoltan J., et al., 2005), from the most important points that it show that there is entrepreneurship in a society or there is not is the appearance of new product. Because this new product is the first results and the first sign for this entrepreneur. In addition, in the previous existence of enterprise, the entrepreneurs can also use new production process in his operation as using new technologies or new graduate workers who will exploit his knowledge in the production.

6.7. Increase the productivity by increase competition¹⁵¹.

According to Stephen (Nickell et al., 1997), in an environment full of entrepreneurs, from the important goals of every one is to grow up his sells number and getting a big part in the market. For that, we will find that the competition between these enterprises grow according to the common goals between them and the same market. Therefore, from the ways to growing up the sells capital and to get a big part is the market and getting the biggest number of faithful customer is to produce more and satisfy the desirous of customers, the matter that will increase the productivity. For that, the entrepreneurship is the first variable to increase the productivity, create, and increase the competition in the market.

6.8. Knowledge spillovers¹⁵²:

According to (Stephan F. Gohmann et al., 2013), through the growth of entrepreneurship in the society, the number of foreign entrepreneurs will also grow in the new market; these later will bring the technology and knowledge of their own nations in the country of the new market. For that, they will contribute in the transformation of knowledge from the own country to the new country; from another hand, by making clusters with the local entrepreneurs, they will exchange all of technologies, knowledge, process of management and production with the local entrepreneurs. There for, entrepreneurship it is from the important process of the knowledge spillover between the countries.

¹⁵⁰ Zoltan J. Acs and David B. Audretsch, "Innovation and Technological Change," in *Handbook of Entrepreneurship Research*, ed. Zoltan J. Acs and David B. Audretsch, International Handbook Series on Entrepreneurship 1 (Springer US, 2005), 55–79, http://link.springer.com/chapter/10.1007/0-387-24519-7_4.

¹⁵¹ Stephen Nickell, Daphne Nicolitsas, and Neil Dryden, "What Makes Firms Perform Well?," *European Economic Review* 41, no. 3–5 (April 1997): 783–796, doi:10.1016/S0014-2921(97)00037-8.

¹⁵² Stephan F. Gohmann and Jose M. Fernandez, "Proprietorship and Unemployment in the United States."

7. Demand and supply for entrepreneurship¹⁵³:

Entrepreneurship get an important role in the growth of the economy as we mention before. Therefore and according to (E. Stam, 2009), we can suggest that there is two sides of entrepreneurship: demand entrepreneurship and supply entrepreneurship and each one get its own characteristics.

7.1. Supply side of entrepreneurship:

The supply side of entrepreneurship refers to the compositions and characteristics of the population of individuals and organizations as producers of entrepreneurship. In the departure, it starts with the availability of potential entrepreneur.

The supply side of entrepreneurship refers to the compositions and characteristics of population and organization as producer of entrepreneurship through key elements as resources, abilities, and performance for individuals, willingness to take risks, preference for autonomy and self-direction, specific human capital and experiences. The supply take in the account all of:

- Nature and number of organizations in the region,
- The regional culture.
- Labor market structure in the region.

For that we can understand why in given environment, why some individuals are more likely to be entrepreneur than others.

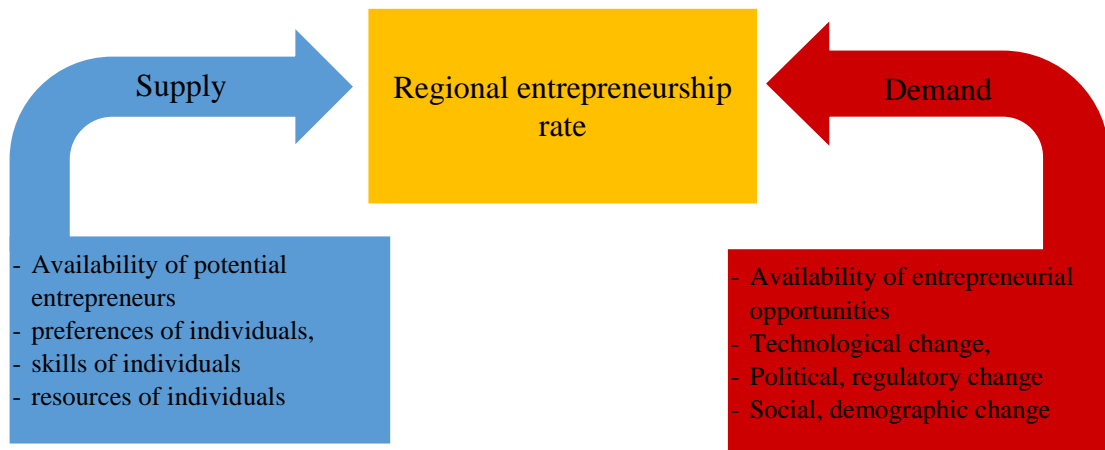
7.2. Demand side of entrepreneurship:

This side represents the opportunities for entrepreneurship, which is opening new ways to the potential entrepreneur for new products or services. In contrast to the supply side perspectives of entrepreneurship, the demand side perspectives argue that individuals in particular environment are more likely to be entrepreneur because the demand side contain available opportunities that encourages the individuals to exploit them by creating firms.

To study the demand side, it is necessary to look for the sources of opportunities as growing in purchasing power, technological change, and regulatory change. The schemas below globalize both sides of entrepreneurship:

¹⁵³ Stam, "Entrepreneurship," 493.

Figure 4: Supply and Demand of Entrepreneurship



Source : Entrepreneurship, E. Stam p493¹⁵⁴

8. Becoming entrepreneur:

From the most important factors that push individual to become entrepreneur are¹⁵⁵:

- Remaining unemployed,
- The less chances for employment in the near future
- Do not find alternative paid-jobs with the wage that they want from another side¹⁵⁶.
- afraid from the uncertain risks
- losing their social status¹⁵⁷
- According to Oxenfeldt (1943)¹⁵⁸, low prospects for wage-employment¹⁵⁹.
- Storey (1991, p. 177) concludes, “The broad consensus is that time series analyses point

to unemployment being, ceteris paribus, positively associated with indices of new-firm formation, whereas cross sectional, or pooled cross sectional studies appear to indicate the reverse. Attempts to reconcile these differences have not been wholly successful.”¹⁶⁰

¹⁵⁴ Stam, “Entrepreneurship.”

¹⁵⁵ A. Roy Thurik et al., “Does Self-Employment Reduce Unemployment?”.

¹⁵⁶ D.B. Audretsch, M.A. Carree, and A.R. Thurik, “Does Entrepreneurship Reduce Unemployment?,” 3.

¹⁵⁷ Cecilia Johanna De Lange, “The Relationship Of Entrepreneurial Attitude and Entrepreneurship” (University of South Africa, 2000), <http://uir.unisa.ac.za/handle/10500/937>.

¹⁵⁸ Alfred Richard Oxenfeldt, *New Firms and Free Enterprise: Pre-War and Post-War Aspects* (American Council on Public Affairs, 1943).

¹⁵⁹ A. Roy Thurik et al., “Does Self-Employment Reduce Unemployment?”.

¹⁶⁰ Storey, “The Birth of New firms—Does Unemployment Matter?”.

From the important factors that it push the individuals to create new firms¹⁶¹:

Opportunity:

The opportunity is an important factor because it give the chance to the individual to create its own firm, and it is created by the market conditions and expectation.

Skills:

The skills include all the abilities of the entrepreneur and their access to business advice.

Resources:

The sources comprise access to capital, Research and development and technology.

- a) Access to new technology and ICT (information and communication technology):
 - ICT Diffusion
 - Transmission of R&D
- b) Access to finance
- c) Access to capabilities and to skilled labor

9. Entrepreneurship and unemployment:

There are several relationship between entrepreneurship and unemployment; I tried to summarize them in the points below:

9.1 The different effects between entrepreneurship and unemployment:

From the ambiguous relation in the economic research is the relationship between unemployment and entrepreneurship, because it faces different situation, and in the same time could found to opposite relations such as unemployment induce to entrepreneurship and in the same time unemployment reduce unemployment.

In the point below, I give the majority effect between unemployment and entrepreneurship:

a. **First Side: Unemployment reduce Entrepreneurship:**

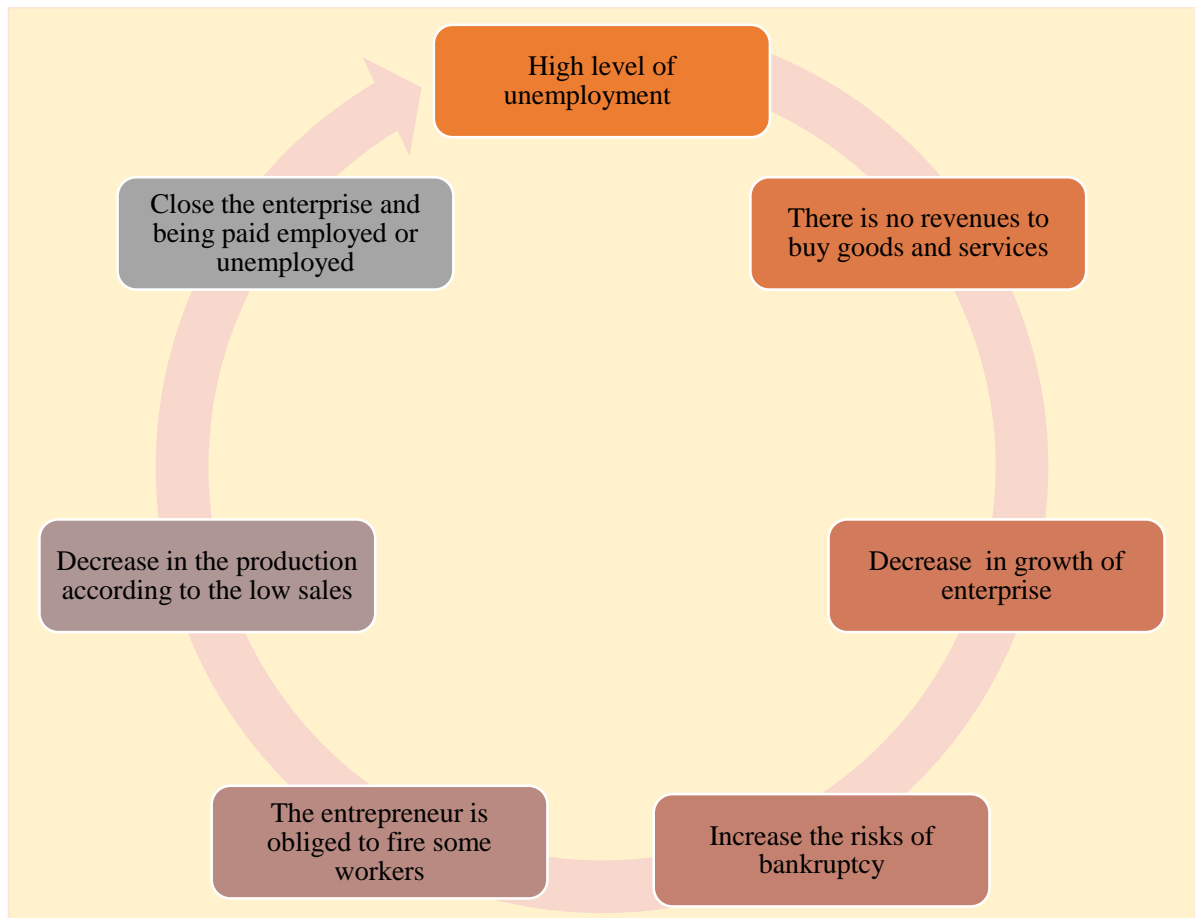
According to different authors such as (E. Stem, 2009) and (Stephan F. et al., 2013), unemployment affects entrepreneurship in the worst way i.e. unemployment decrease the entrepreneurship. Because if unemployment rate will be high in a specific society, **in the absence of the state helps to their population**, the unemployed people do not have much revenue to buy products or get services. This later decrease the growth of enterprises in addition to increasing the risk of bankruptcy, in this point the entrepreneurs is obliged to fire some workers if he like to stay entrepreneur to minimize the costs of production according to the decrease in the market demand of the product, this decrease will touch also the capital because

¹⁶¹ Axel Mittelstädt and Fabienne Cerri, *Fostering Entrepreneurship for Innovation*, STI working paper (OECD, December 1, 2009), 10, www.oecd.org/industry/ind/41978441.pdf.

the low sales. On the other hand, he will close his enterprises and become paid employee if he get the chance. In general, he will do because he get the skills, experiences and knowledge or being unemployed. In the end, we find that the rate of unemployment will be increased and entrepreneurship will be decreased.

The chart below represent a small circle about the effect of unemployment in entrepreneurship:

Figure 5: circle of high unemployment reduce entrepreneurship



b. **Second Side: Refugee effect or unemployment push or desperation¹⁶² effect (threat):**

According to (Thurik et al., 2008), this is a positive effect of unemployment in entrepreneurship¹⁶³. In a society with high rates of unemployment, the unemployed people do not find revenues to buy products and getting services, this will decrease the level of economy of this society. There for, according to different factors such as:

- The threats that it face the individual according to his uncertain future,
- The need to get money and enhance the economic level of the society,
- **The absence of the state helps to the population**

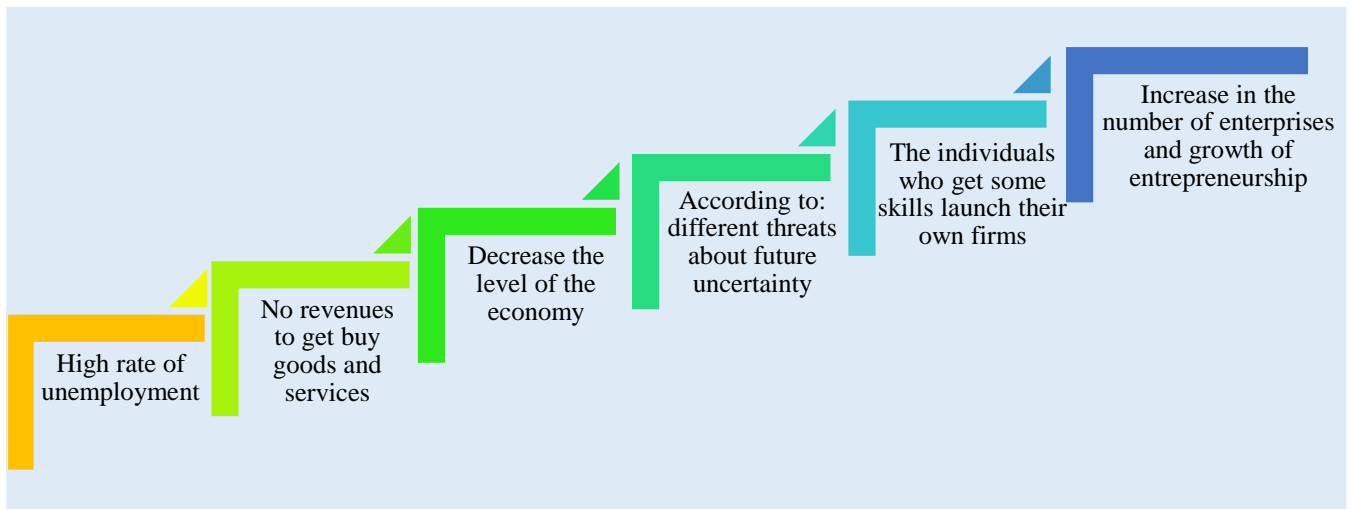
¹⁶² A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?," 674.

¹⁶³ Ibid., 675.

Some individuals who found themselves able to create firm and get the minimum resources, they will engage to create start-up activity according to the high rates of unemployment¹⁶⁴ because they found that there is no alternative paid-jobs. Therefore, in the end we find that Unemployment is the first factor that it push the individual to be self-employed and he will automatically hire more unemployed individuals to launch the business. This kind of entrepreneurship is necessity entrepreneurship because the individual do not find any way just becoming self-employed to do not remain in entrepreneurship.

To understand this effect, the chart under represent different steps of this effect:

Figure 6: different steps in Refugee effects



Source: edited by the student according to previous literature

c. **Third side: Pull effect or prosperity effect:**

We see this effect in the state with a booming economy, because according to (Audretsch, 1995) from the several reasons that it push the individual even if they were paid-employee, they quite there previous work to become self-employed is the prosperity in the economy. Because for the individual who were unemployed, they will found that self-employment is the best activity to generate money and social benefits especially in a developed economy. For the workers, they do not find that their job allow them to exploit all their skills, and according to (Shane, 1996) who said that the individuals do not have to worry about losing jobs if they tend to be self-employed¹⁶⁵. Because from the interesting point that the individuals look for to become entrepreneurs is feel own boss, create own business, feel that it gives a positive thing to the society, it contributes in the growth of the economy. In a state with a less economy, we do not find this effect for individuals to become entrepreneur because in the first, there is

¹⁶⁴ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?".

¹⁶⁵ S. Shane, "Explaining Variation in Rates of Entrepreneurship in the United States: 1899-1988," *Journal of Management* 22, no. 5 (October 1, 1996): 747-781, doi:10.1177/014920639602200504.

unstable economic environment that it makes the individual always afraid according to the risk uncertainty.

d. **Fourth side: Entrepreneurial effect or Schumpeter effect:**

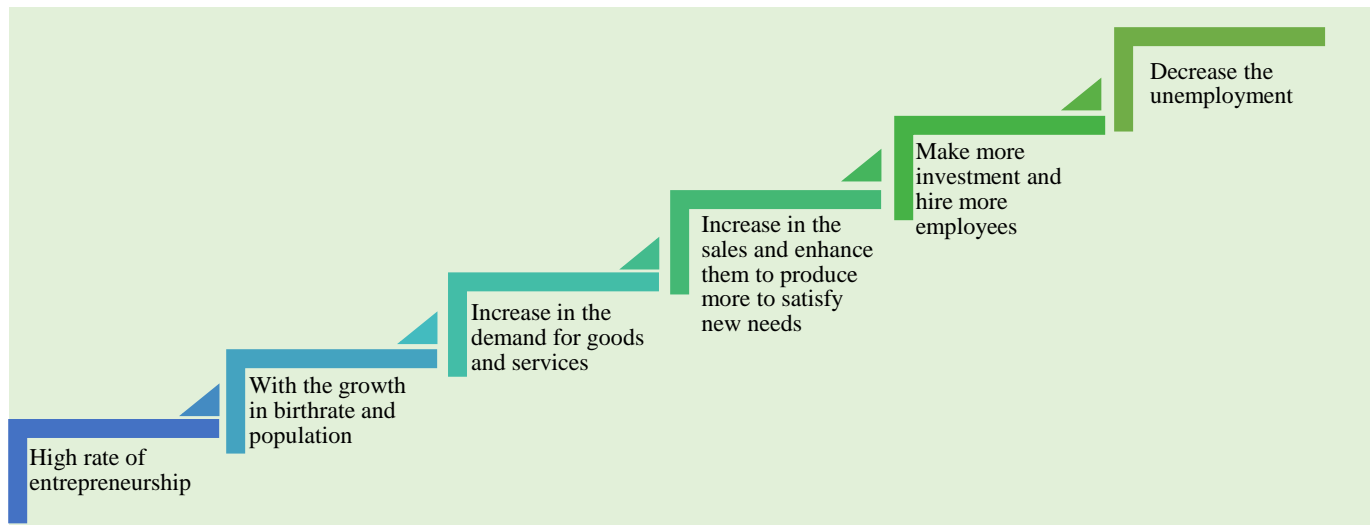
According to (Golpe and van Stel, 2008¹⁶⁶; Thurik et al., 2008), this is a negative effect of entrepreneurship in unemployment that mean entrepreneurship reduce unemployment. Because, in a society with high rates of self-employed, this later in the long run will lead to an increase and growth in the entrepreneurial activities and growth in the enterprises. In front of this growth, there will growth in the demand from customers. With time also, there will be also growth in the birthrate that will increase the rate of population, this later will increase the demand for products and services and the diversification of desire. The increase in demand induces the entrepreneurs to hire more unemployed worker to produce more to satisfy the need and desires of customers. Also, the diversification of need be like opportunities for opportunity entrepreneur that will exploit these opportunities to be self-employed. Therefore, we get new entrepreneurs for the new needs who will hire workers to start his activity. Therefore, in this point we get both of increase in the number of entrepreneurs and decrease in the number of unemployed people¹⁶⁷. For the entrepreneur who will hire more workers, he will increase the size of his enterprises and reduce unemployment. Therefore, all of them get its own role in the society to reduce unemployment.

¹⁶⁶ Antonio Anibal Golpe and André van Stel, "Self-Employment and Unemployment in Spanish Regions in the Period 1979–2001," in *Measuring Entrepreneurship*, ed. Emilio Congregado, International Studies In Entrepreneurship 16 (Springer US, 2008), 191–204, http://link.springer.com/chapter/10.1007/978-0-387-72288-7_9.

¹⁶⁷ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?"

Therefore, the figure below summarizes the different steps of entrepreneurial effect:

Figure 7: different steps in entrepreneurial effect



e. **The entrepreneurship could be affected by:**

From different factors that affects the entrepreneurship in a specific area, there are:

f. **Industry structure¹⁶⁸:**

The structure of the industry could affect directly the entrepreneurship in each region. From the important points that affect entrepreneurship in the industry structure:

The degree of contestability (barriers of entry): i.e. in the departure of an enterprise, it will face different barriers from different sides such as competitors, the provider, the administration in the first steps of launching the procedures to create an enterprise...etc.

The economic tissue (number of firms in services more that in the mining): because the economic tissue contain enterprises i.e. competitors.

g. **The regional context:**

The regional context contain some important keys that can affect entrepreneurship. Such as labor force (workers), the raw materials, and markets to sell the products or customers to give your services. There are regions with specific characteristics that create a suitable environment of high level of entrepreneurship (the example of SILICON VALLEY).

h. **The clusters:**

The Cluster is the concentration of some organizations of the same activity in a fixed place, the advantage that allows them to provide¹⁶⁹:

1. Established relationships between the different enterprises and the firms,
2. The availability of better information about new opportunities discovered,
3. The cluster creates a competitive climate and a strong rivalry among the firms,

¹⁶⁸ Stam, "Entrepreneurship."

¹⁶⁹ Ibid., 495.

4. The available access to financial and commercial infrastructure,
5. Easing the spin-offs of new companies from existing ones: i.e. the new companies will find a good environment to start their activity even in a whole number of competitors because they are in the same cluster, so they represent the same enterprise.

From this point, we can suggest that the role of cluster is in reducing the barriers of entry to the entrepreneurship because it reduces the risk uncertainty for aspiring entrepreneurs.

i. **Urbanization:**

The urban area gets its own and specific importance for entrepreneur rather than the rural ones because:

- Relative ease to access to customers,
- Access to required inputs such as: capital, labor and suppliers,
- Urban area full of educated and experiences people that it is very possibly to be future entrepreneur.
- An important point is related with the growth demand, population growth and income growth, because in the first different studies find that growth is likely related with the urbanization, so growth in population increase the demand of product and services, this later will automatically increase the number of entrepreneurs to satisfy the full demand for products and services. In addition, more population increases the diversification in products and services that will also increase the entrepreneurship.

j. **Growth in scientific knowledge:**

All of universities, institution and research centers create new knowledge that generates new opportunities for students and graduates to create their own firm¹⁷⁰ (E. Stam, 2009).

k. **Financial capital:**

From the most important factors that induce the individuals to become entrepreneur is finance. Because many individuals get all characteristics to be entrepreneur but without financial resources. There for, they could not launch the business. For that, the individual how get own finance get all ability to launch the business.

9.2 Good policies to enhance entrepreneurship and reduce unemployment:

From the policies that enhance entrepreneurship through reduce unemployment, there are:

1. Ease the transaction from unemployment to entrepreneurship¹⁷¹,
2. Reducing the costs of starting a new business and removing barriers to obtain financial capital¹⁷².

¹⁷⁰ Ibid., 497.

¹⁷¹ Thomas Hinz and Monika Jungbauer-Gans, "Starting a Business after Unemployment: Characteristics and Chances of Success (empirical Evidence from a Regional German Labour Market)," *Entrepreneurship & Regional Development* 11, no. 4 (1999): 317–333.

¹⁷² Stephan F. Gohmann and Jose M. Fernandez, "Proprietorship and Unemployment in the United States."

3. Providing instruments to promote entrepreneurship¹⁷³ .
4. Reduce the barriers to innovate¹⁷⁴.
5. Enhance the investment and creating wealth.

9.3 Why the unemployed people tend to become entrepreneur (self-employed)?

According to the worst situation in the unemployment, and the bad image from the others to the unemployed plus its negative value in the economy, some of the unemployed people tend to create its own activity, being self-employed and launching entrepreneurial activity. From the important point that the unemployed want to get them through becoming entrepreneur are:

1. Remaining unemployed push the individual to be self-employed (necessity entrepreneur) because he find that there is no alternative rather than being self-employed to get work.
2. Possess lower endowment of human capital¹⁷⁵,
3. Possess entrepreneurial talent¹⁷⁶.
4. Get a strong social ties¹⁷⁷,

There are several reasons for the locational inertia of the entrepreneur that it makes him start in his own society are¹⁷⁸:

5. The entrepreneurs can utilize their existing network to see all of partners of work, employees to work, suppliers, customers, advisors and investors.
6. The previous step help the entrepreneurs to decrease the costs of research in addition to allow the entrepreneurs to build upon credibility and trust developed in past relationship.
7. In the first, the entrepreneur can start in part-time basis and delay full-time commitment until the venture seems sufficiently promising.
8. The spouse also can keep a job and the full energies of entrepreneurs can be devoted to start up.

9.4 The causes of high rates of unemployment? In front of entrepreneurship:

The unemployment touch different rates according to the situation of the economy of the country, the matter that it make us saying that there is not any country without

¹⁷³ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?," 683.

¹⁷⁴ Pietro F. Peretto, "Chapter 19 Market Power, Growth, and Unemployment," *Frontiers of Economics and Globalization* 11 (November 1, 2011): 495, doi:10.1108/S1574-8715(2011)0000011024.

¹⁷⁵ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?."

¹⁷⁶ Ibid.

¹⁷⁷ Stam, "Entrepreneurship," 493.

¹⁷⁸ Stam, "Entrepreneurship," 493.

unemployment even the developed countries. This unemployment has different causes for its high rates in the economies. From these different rates, there are:

1. Low degree of self-employment¹⁷⁹,
2. Low level of personal wealth which also reduce the likelihood of becoming self-employed,
3. Higher labor income taxes¹⁸⁰,
4. The region of living,
5. Bureaucratic barriers,
6. The Disequilibrium between both forces of unemployment in the labor market. This later is one of the most important factor that push to the instability in the global economy¹⁸¹.
7. High rates of population growth,
8. High numbers of workers in the labor force,
9. The women insertion to the labor market reduce the chance of men to find work,
10. The work after retirement for the old people reduce the chance for the young people to find jobs,
11. The young children employment (minority employment),
12. The older systems of education and vocational training especially in the Arabic countries make these countries less able to satisfy the new market need and to complete the developed foreign labor force.
13. The bed role of the state as employer in creating free jobs in all department of government as a result of the reorganization of the government in many Arabic countries.
14. From another side, many people do not like to work in a traditional activity or as an artisan where it need more body force. The majority of people in labor force look for work in governmental job even if after a long period of waiting or for looking.

9.5 The difficulties that it face the unemployed to be entrepreneur¹⁸² :

From the most important difficulties, that it makes barriers for the unemployed to become self-employed is the financial uncertainty. Because in the mind of many individuals “if I get money or available financial resource, I will launch entrepreneurial activity, I will hire more employees and being rich”. However, from the most important difficulties that the individuals

¹⁷⁹ A. Roy Thurik et al., “Does Self-Employment Reduce Unemployment?”.

¹⁸⁰ Peretto, “Chapter 19 Market Power, Growth, and Unemployment,” 494.

¹⁸¹ Dadene abdelghani, “2008 -1970الفترة خلال الجزائر في البطالة لمعدلات البطالة في,” *revue elbahith* no. 10 (2012): 175–189.

¹⁸² Stephan F. Gohmann and Jose M. Fernandez, “Proprietorship and Unemployment in the United States.”

do not know them about entrepreneurship and being self-employed are the ones related with the psychology and knowledge of the entrepreneur. Therefore, from the personal barriers that it stop the individual from becoming self-employee is¹⁸³:

1. Lower skilled,
2. Do not have managerial skilled,
3. Low likelihood to start business,
4. Low level of personal wealth (financial resource),
5. Low human capital level make the unemployed less competent to start a firm¹⁸⁴.
6. Heavy bureaucratic procedure in our administration,

9.6 Barriers for entrepreneurship:

In our economics, several barriers could destroy the growth entrepreneurship. These barriers are related with different factors. From the important dangerous barriers are:

1. Stagnant economic growth lead to fewer entrepreneurial opportunities,
2. Many small firms are poor economies of scale in production,
3. Low level of R&D,
4. Vibrant entrepreneurial activity.

¹⁸³ Alba, *Self-Employment in the Midst of Unemployment*.

¹⁸⁴ Adriaan Van Stel and David Storey, "The Link between Firm Births and Job Creation: Is There a Upas Tree Effect?," *Regional Studies* 38, no. 8 (2004): 893–909, doi:10.1080/0034340042000280929.

Conclusion:

As a conclusion of this chapter, we said that entrepreneurship is the key for different bad phenomenon that it happened in the world because it touch all sides of human, psychological side where entrepreneurship allow the individual to get the bottom need according to Maslow pyramid for desirous to innovate and create something for the society. Therefore, we cannot imagine the existence of a society or economy without entrepreneurship. Because, it is an engine of growth according to its important role, we take Silicon Valley as example when they knew the important of entrepreneurship; they are the most active place with entrepreneurs. There for, it is necessary for us to look for this for our country.

CHAPTER TWO: EMPLOYMENT, UNEMPLOYMENT AND ENTREPRENEURSHIP IN ALGERIA

1. Entrepreneurship and SME in Algeria :

Introduction:

According to the previous chapter, we understand that entrepreneurship play an important role in the economy, and in the society as big role. For that, we tend in this chapter to give picture about entrepreneurship in Algeria by using data from different sources especially the national office of statistics. From another hand, we show also the employment situation in the Algeria to combine between the entrepreneurship and the employment to find its contribution in the difficult phenomena of unemployment that makes the governments stressed about it because it is one of the problem solutions in all sides. For the case of our country, we knew there are some processes that are launched before to correct the situation. Therefore, I tend to give them a space of my thesis to follow different procedures in the growth of the Algerian economy, and to understand the different changes in the economy to get to the right solution.

1.1 Entrepreneurship and the SME in Algeria:

According to the important role of entrepreneurship in boosting the level of economic growth in the developed and developing countries. Algeria also give this sector its value of importance to strengthen the economic tissues. After the crisis that it touch the state economy according to the chocks of the decrease in the prices of the oil, and the importance of the SME's and entrepreneurship in the developed countries, it also try to give a big part to elevate the economic level.

1. Definition of the SME in Algeria:

Small & Medium sized Enterprises is all enterprises of production or services, employ from one employee to 250 employees, and its capital is less or equal to 2 million DA.

1.2 The importance of the SME:

From the most important goals of the Small & Medium sized Enterprises is:

a. Absorbing the unemployment:

In the growth of the small and medium sized enterprises, they need employees to produce products and services. This matter will enhance employment by creating free jobs in the market, which will automatically reduce unemployment

b. **Creating adding value:**

New enterprises bring new products in the local market that will lead to create adding value

c. **Creating wealth:**

In the growth of the number of enterprises in the market and the growth in the productivity, this will lead to improve the level of revenues through the growth in the capital and the wage of employees. There for, all this different growth will contribute in creating wealth in the society.

d. **Enhancing the exports and reducing the imports:**

In the growth of the local products, this will increase the demand for local products and reduce it for the other products. This later will enhance the national enterprises to inter into the international market to improve the capital, improve the capacity of the enterprises and grow the parts in the markets. Therefore, it will automatically improve the exports. In the other hand, and by increasing the demand for the local products, the parts of the foreign products will decrease in the national market, for that the imports will beat-of.

e. **Enhance the competitiveness:**

In the entrants of new Small & Medium sized Enterprises, it will compete the previous enterprises in the markets. For that, the competitiveness will grow.

1.3 Policies to enhance entrepreneurship

The Algerian government enhance the private investment and encourage it to compensate the decline in the public investment program. It focus their attentions in the private investment-led through ensuring their activities to be sustainable, diversified to contribute in reducing unemployment especially the youth unemployment and providing opportunities for the qualified unemployed to create their own business. From the ambitious structural reforms to correct situation in Algeria and reduce unemployment are¹⁸⁵:

- Enhance the business climate,
- Improve competitiveness,
- Increase financial sector intermediation,
- Make the labor market more flexible
- Reforming the labor market especially for the qualified unemployment

¹⁸⁵ IMF Paper, "Algeria: 2011 Article IV Consultation--Staff Report; Public Information Notice; IMF Country Report 12/20; December 22, 2011," accessed July 12, 2013, <http://webcache.googleusercontent.com/search?q=cache:SR8sW2WogsQJ:www.imf.org/external/pubs/ft/scr/2012/cr1220.pdf+&cd=1&hl=fr&ct=clnk&gl=dz>.

CHAPTER TWO: EMPLOYMENT, UNEMPLOYMENT AND ENTREPRENEURSHIP IN ALGERIA

For that, the Algerian authorities enhance the private sector because it is more important in the creation of employment and it is one of the important sector in growing the economic level than the state level. Improving the private sector push the individual from job seeker to job creator, that is mean change the situation of the individual from looking for work in pushing it to be creator of work in addition to other desirous such as being own boss and the independence in work and other social goals such as growing the level of living.

Table 15: segmentation of Small and Medium sized enterprise according to law 18-01 in 15/12/2001

	Number of employees	Annual capital	Annual balance
Micro-enterprise	From 1 to 9 employees	Less than 20 million da	Less or equal than 10 million da
Small enterprise	From 10 to 49 employee	Less than 200 million da	Less or equal to 100 million da
Medium sized enterprise	From 50 to 250 employee	From 200 million da to 2 milliard da	From 100 to 500 million da

Source: ¹⁸⁶2011، الية انشاء ومرافقة المؤسسات الصغيرة والمتوسطة في ضوء الفكر المقاولاتي،

a. Data about the SME in Algeria:

According to some official data from the ministry about the number of Small and Medium sized Enterprises in Algeria, the table below demonstrate the number of the SMEs in 2009:

Table 16: number of different SME in Algeria in 2009

types of enterprises	Number of The SME in 2009	The rate
Private enterprise	455398	72,86%
State Enterprises	591	0,09%
Handicrafts	169080	27,05%
Total	625069	100,00%

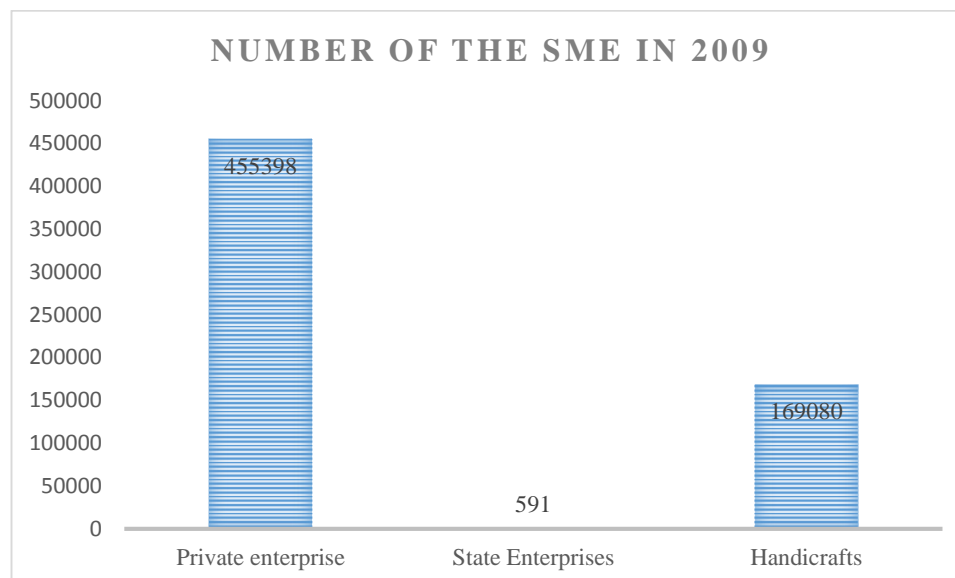
Source: 2011، الية انشاء و مرافقة المؤسسات الصغيرة و المتوسطة في ضوء الفكر المقاولاتي،

The graph below demonstrate the number of the SMEs in 2009:

¹⁸⁶ Merghad Lakhder and Djellab Mohammed, " الية انشاء و مرافقة المؤسسات الصغيرة و المتوسطة في ضوء الفكر المقاولاتي."، 3, 2011.

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Figure 8: Number of the SME in Algeria, 2009



Source: edited by the student according to the data in table 16

According to the provision of IMF¹⁸⁷, The unemployment rate in Algeria in 2016 would be between 8% until 11%. As we know that the youth unemployment is more than the global unemployment, it would be between 19% and 21%.

About the employment of the small and medium sized enterprise in the chart above, in the table below there is some data about the number of workers in 2009:

Table 17: number of employees in different categories of enterprises in Algeria, 2009

Nature of enterprises	Number of The SME in 2009	the rate	number of employees	the rate	employees per enterprise
private enterprise	455398	72,86%	1363444	77,60%	3
State enterprises	591	0,09%	51635	2,94%	88
Handicrafts	169080	27,05%	341885	19,46%	3
the sum	625069	100,00%	1756964	100,00%	

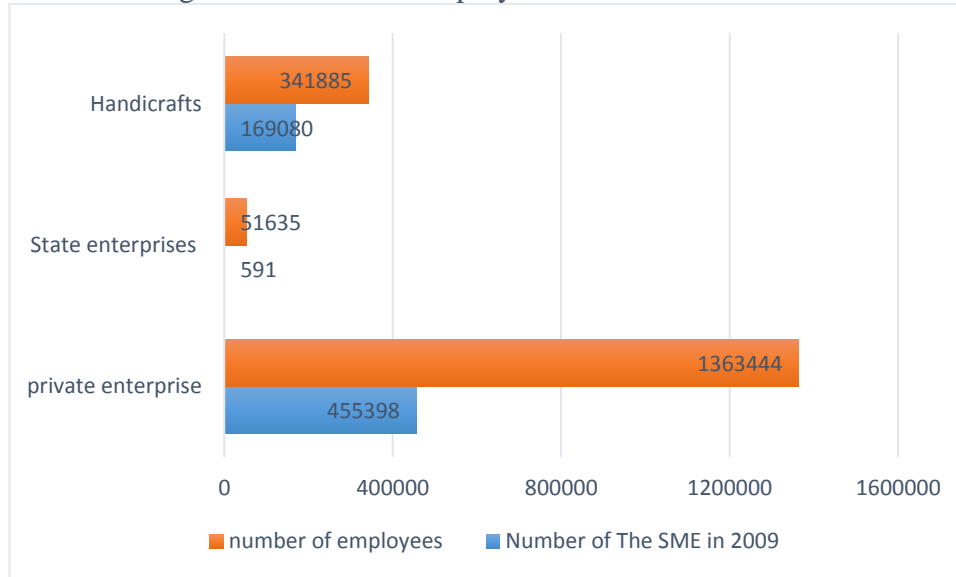
Source: البية انشاء و مرافقة المؤسسات الصغيرة و المتوسطة في ضوء الفكر المقاولاتي 2009

The chart in figure 9 show the number of employment created by the SME in 2009 between different sectors:

¹⁸⁷ IMF Paper, "Algeria: 2011 Article IV Consultation--Staff Report; Public Information Notice; IMF Country Report 12/20; December 22, 2011," 12.

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Figure 9: number of employees in SMEs in 2009



Source: الية انشاء و مرافقة المؤسسات الصغيرة و المتوسطة في ضوء الفكر المقاولاتي 2009

According to the data that we gather from national office of statistics, we can touch the growth of the economy and private sector before 1980 to 2011:

b. Growth of economic entities before 1980 to 2011:

In the first period after the independence, the Algerian authorities focus all its importance in building the economic tissue to grow up the economy because it loose a lot from this tissue in the period under colonialism. Therefore, we can understand that it exploit the majority of available resources, according to make loans from the international institution. The table below show a clear picture about the growth in the number of economic entities:

Table 18: Growth of economic entities before 1980 to 2011

Period	before 1980	1980-1989	1990-1999	2000-2011
<i>Number of enterprises</i>	20553	39238	158823	715636
<i>Δ enterprises</i>		18685	119585	556813

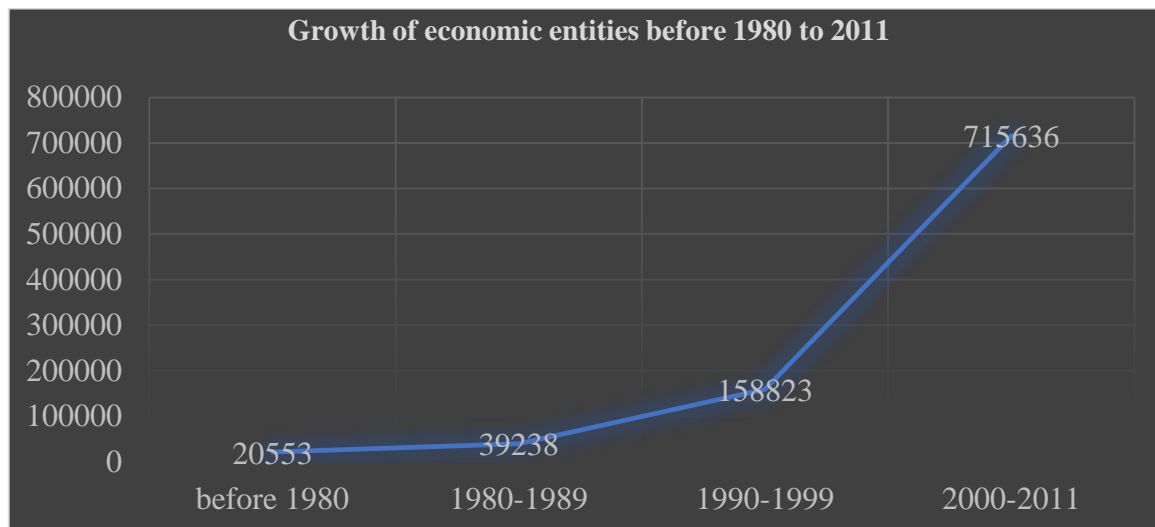
Source: National Office of Statistics, 2012¹⁸⁸.

According to the table 18, the chart below show clearly the growth if the number of the economic entities especially in the latest period 2000-2011 according to the facilities that the Algerian government make them to enhance the creation of the enterprises.

¹⁸⁸ Office National des Statistiques, ALGERIE, *Le Premier Recensement Economique*, vol. Série E : Economie N° 69, 172/2012 (Algeria : Les Ateliers de l'Imprimerie de l'O.N.S./D.P.D.D.I. 8 & 10 Rue des Moussebiline - Alger –, 2012), <http://www.ons.dz>.

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Figure 10: Growth in the number of economic entities before 1980 to 2011



Source: edited by the student according to the data in table 18, National Office of statistics 2012

c. Segmentation of enterprises according to legal sector:

According to the opportunities given to the individual to create their own firms through the different mechanisms, and the whole opportunities given to the foreigners to invest in Algeria. We find that the private sector represent the biggest portion in the economic tissue with a rate of 97.97%. The table below describe the portion of the different sectors:

Table 19: segmentation of enterprises per legal sector to 2011

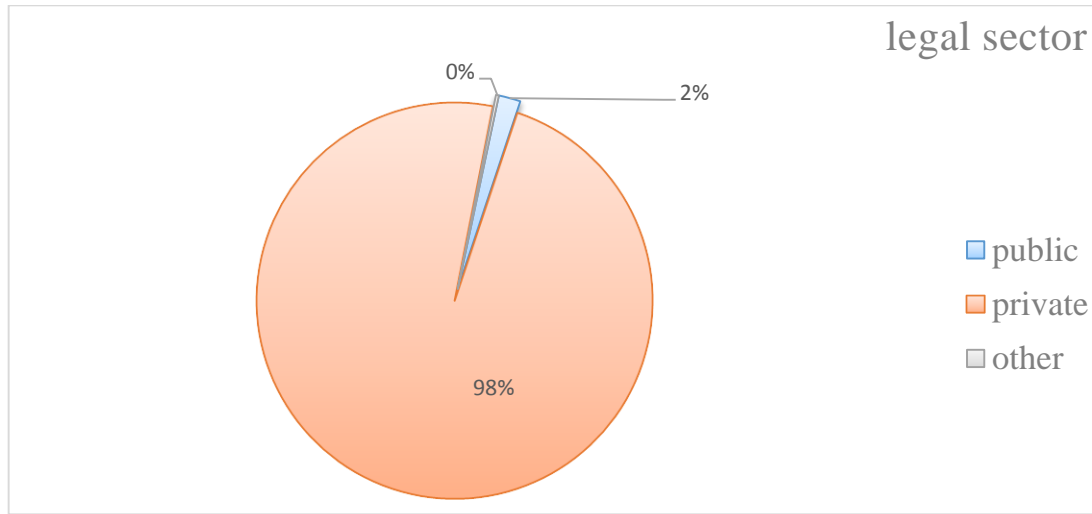
Legal sector	Number of enterprises	Rate
Public	16718	1.78%
Private	915316	97.97%
Other	2216	0.25%
Total	934250	100%

Source: National Office of Statistics, 2012

The figure below demonstrate a picture about the proportion of enterprises in legal sectors:

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Figure 11: segmentation of enterprises per legal sector



Source: edited by the student according to the data in the table above

d. Segmentation of the enterprises according to the financial capital:

From the important factors, that it segment the enterprises in the Algerian state is the financial capital because it is related with the financial situation or the wealth situation of the person. For that, we find that more than 93% of enterprises are enterprises with less than 20 million DA with a number of 874403. In the second step, we see the enterprises with capital less than 200 million da in the second rate with a number of 53153 enterprises. To make a clear picture about the rates of enterprises in different level of capitals, the table below make this picture:

Table 20: segmentation of enterprises per legal sector and sum of financial capital to 2011

	less than 20 million DA	between 20 m and 200 m DA	between 200 m and 2 Milliard DA	more than 2 Milliard DA	Total	Rate
Private	866110	46071	2792	343	915316	97.97%
Public	6916	6558	2720	524	16718	1.78%
Others	1377	524	225	90	2216	0.25%
Total	874403	53153	5737	957	934250	100%
Rate %	93.59%	5.68%	0.61%	0.12%	100%	

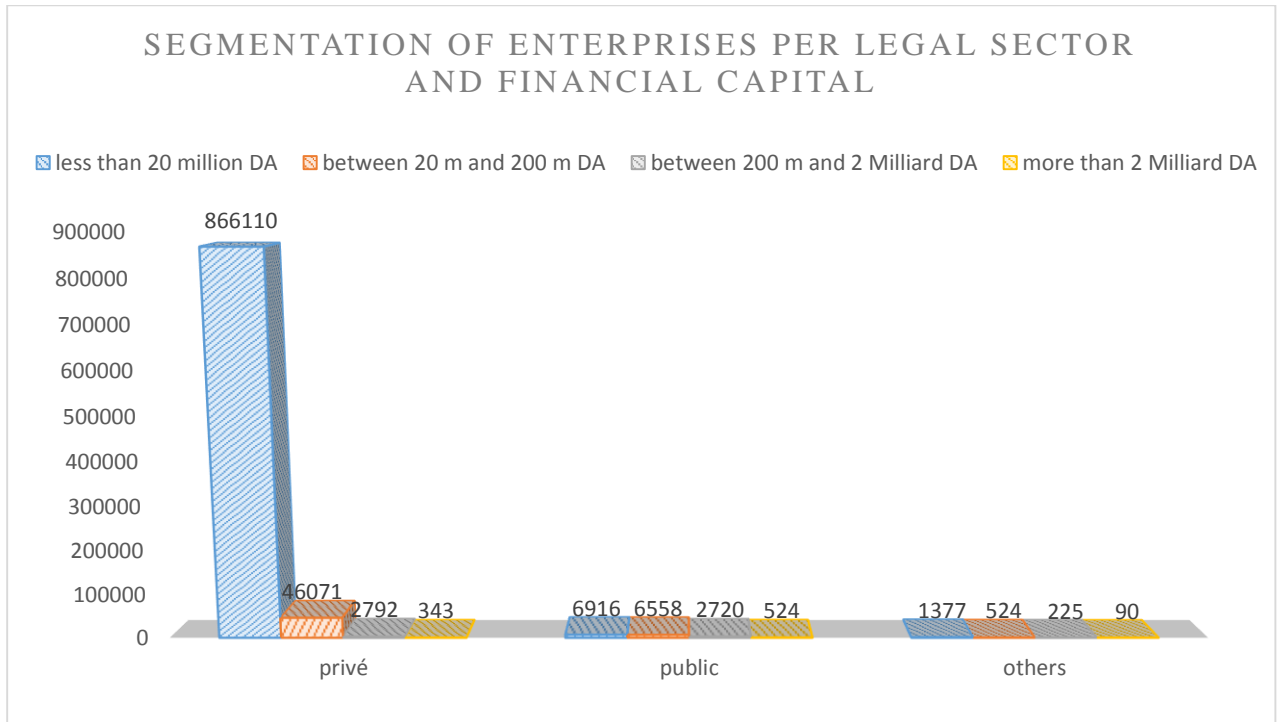
Source: National Office of Statistics, 2012

From the table above, we find that the private sector represent the largest proportion in addition to the same thing for the proportion of enterprises with a capital less than 20 million da. For example, the enterprises with a capital less than 20 million da represent 93.59% of the

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global enterprises in the Algerian economy in 2011 according to the (NOS,2012) with a number of 874403 enterprises, where in the second rate we find enterprises with less than 200 million da with 5.68%. In the latest rate, we find enterprises with more than two milliard da with a rate of 0.12%. To describe more these data, the chart in figure 12 represent these rates:

Figure 12: segmentation of enterprises per legal sector and sum of financial capital



Source: edited by the student according to the data in the table above

1.4 Population and labor market in Algeria:

The growth of population appear as one of the principal key element for the high growth of unemployment in Algeria according to high birthrate level. From the table below we seen that after the independence, the number of population in 1966 was 12.022.000 person. In this period, one of the most important goals that the new Algerian government want to get them is populating the country to get a youth labor force for a goal to grow the economy. For that, there was a positive growth of the population from 1966 to 1977 with an annual rate of 3.72%. According to this rate of growth, the population touch more than 16 million in 1977. This growth continue with a high rate of growth until 2000 when it was 30.071.600. After this period, there was a little decrease in the rate of growth. From 2000 to 2012, we find that there is a stagnant rate of growth with 1.5% per year. Therefore, it was 30 million person in 2000 and it touch more than 35 million person in 2012. According to TRADING ECONOMICS, there is a high rate of growth in the first month where they find that the population will grow

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with a rate of 5.34% to be more than 37 million person in the first month of 2013. The table below present this data and the charts under clarify the growth in different steps:

Table 21: growth in the number of population from 1966 until 2012

Year	Number of population
1966	12 022 000
1977	16 948 000
1987	23 038 942
1998	29 100 869
2000	30 071 600
2001	30 506 100
2002	30 954 300
2003	31 414 100
2004	31 885 400
2005	32 366 100
2006	32 854 500
2007	33 351 500
2008	33 858 200
2009	34 373 400
2010	34 900 000
2011	35 470 000
2012	35 980 000
2013	37 900 000

Note :

Data from 1966 to 1998, source: www.ons.dz

Data from 2000 to 2013, Source: <http://www.tradingeconomics.com/algeria/population>¹⁸⁹

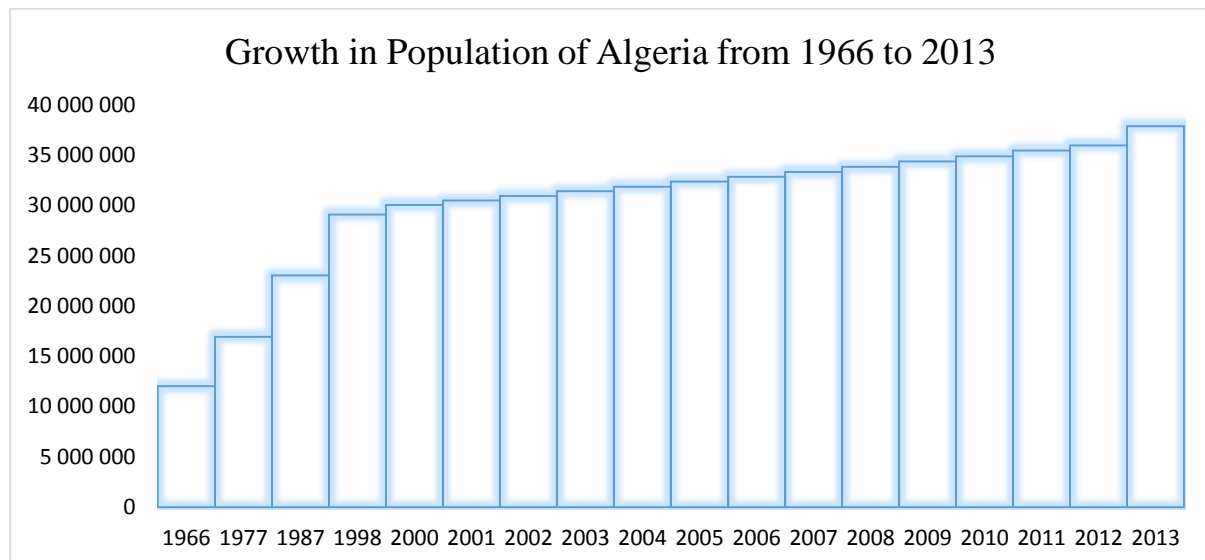
In the table 21, we find that there is a growth in the number of population in Algeria, which is related first with the growth in the birthrate. In addition, this growth related with the economic correction when the families feel with security, the number of population grown according to the facilities and the enhancement for families to get population.

¹⁸⁹ "Algeria Population," accessed July 14, 2013, <http://www.tradingeconomics.com/algeria/population>.

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The figure below demonstrate the development in the rate of the growth of the number of population in Algeria.

Figure 13: rate of growth in the Algerian population



Note:

Data from 1966 to 1998, source: www.ons.dz

Data from 2000 to 2013, Source: <http://www.tradingeconomics.com/algeria/population>

As we see in the figure 13, there is a stable rate of growth of the Algerian population from 2000 until 2009. In this period, the rate of growth was between 1.44% and 1.53%. In 2011, there was a few degree of growth. This few degrees express the growth in the degree of birthrate and reduction in the degree of unemployment.

This growth will automatically affect the rate of youth persons who will be transformed to labor force in the labor market. In the labor market, the individuals choose between three categories:

Being self-employed: i.e. if he found the abilities, skills, and get all of opportunity, financial resources, he will create his own firm and will be work creator rather than work seeker.

Being paid-employee: the majority of youth graduate people are likely to be paid-employee in the state enterprises to ensure the future even if with a lower wage, because they thought that permanent work is still in the state enterprises.

Remain unemployed: this situation is for the new graduate, who have not experience, because there are many enterprises hire worker with previous experiences, so this category of graduate have not the chance to find jobs. For the mal graduates, the military is a big problem because in the field of recruiting, from the principal papers is the military situation. Therefore,

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the individual is obliged to remain in unemployment or work in the informal sector till he get the military services to get the chance to find work in state or private sector of enterprises

a. **Labor market and the Unemployment rate in Algeria:**

The unemployment is one of the most dangerous phenomenon that it touches every nation, even if developed nation. We cannot say that there is a nation without unemployment. Because, even if the technology is a key for development and growth, it is also a principal key for the unemployment because now-days, the enterprises changes the human force with machines and robots. Another key that it pushed the unemployment in the developed countries is the latest crisis 2008 where the rate of unemployment in USA arrived to 6.5%, and to 6.7% in the EU.

As we said before, if the entrepreneur seen that there is a growth in the demand of his product in the market, he will automatically tend to satisfy this demand by producing more product. For that, he will hire more workers to give more productivity. Therefore, he will contribute to reduce unemployment. In a decrease of the demand in the product, there will be an increase in the cost of work with the decrease in the productivity. For that, the entrepreneur will fire workers to minimize the cost of work. For that, we can suggest that there is a direct relationship between the productivity and the unemployment. From another hand, the entrepreneur produce product and supply them in the market, the worker also supply work in the labor market and the enterprises demand for it to produce. Therefore, the labor market it is the first market that combine between the entrepreneur and the worker.

b. **Determinants of Labor market performance:**

According to the definition of business dictionary,” the labor market is the nominal market in which workers find paying work, employers find willing workers, and wage rates are determined. Labor markets may be local or national (even international) in their scope and are made up of smaller, interacting labor markets for different qualifications, skills, and geographical locations. They depend on exchange of information between employers and job seekers about wage rates, conditions of employment, level of competition, and job location¹⁹⁰.

¹⁹⁰ “What Is Labor Market? Definition and Meaning,” *BusinessDictionary.com*, accessed July 23, 2013, <http://www.businessdictionary.com/definition/labor-market.html>.

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From the different factors that it affect the transaction in labor market, i.e. demand of work from the enterprises and supply work for workers are:

- Productivity of the enterprises,
- Wage of work,
- Level of instruction of the worker.

There are different determinants of the labor market performance; we can summarize them in the two points below¹⁹¹:

c. **Labor Market Institutions:**

1st. **Regulation:**

- According to a report from the World Bank in 2004, they said that the labor market regulation provide important social protection for the workers. The regulation aims to protect workers from arbitrary, unfair or discriminatory actions by their employers while addressing potential market failures stemming from insufficient information and inadequate insurance against risk.

- Other authors such as Blanchard in 1998 argues that some employment protection may also be desirable because job contracts are incomplete.

- More employment protection raises the cost of labor according to the increase in the no salary costs, undermines the ability of the firm to adjust the new technologies. Moreover, the regulation increases also the bargaining power of the incumbent worker reducing job creation and labor market flexibility.

- The stricter regulation may also push the unemployment because the job turnover in some environment is low.

2nd. **Taxation:**

- The increase in the labor taxation generally reduce growth in the employment,
- There are a direct relation between the taxes and the employment and wages elasticity, because the workers do not accept any reduction in the wages, the matter that it push the taxes to be born and to grow and labor demand will be decrease.

¹⁹¹ Kangni Kpodar, *Why Has Unemployment in Algeria Been Higher than in MENA and Transition Countries?*, IMF Working Paper (African Department: African Department, August 2007), 9.

3rd. **Macroeconomic Shocks**¹⁹²

1.1.1. **Productivity growth:**

In the short run, there is a trade-off between the productivity growth and employment. Because in the parts of the worker, his value of unit of output is the labor productivity. From this point, a decline in the productivity imply more workers needed to produce the same volume of output. For that, it is more likely to reduce the unemployment. From another point, there are other reasons that make negative effect of the reduction in the productivity discussed below:

◆ The wages tend to adjust slowly with the productivity. However, in the case of wage rigidity, the decline in the productivity increases the cost of labor, the matter that push the firm to reduce the labor demand.

◆ The reduction in the productivity of the state affect negatively the competition power of the state. For that, any decrease in the labor productivity reduce the exports of the states, the matter that it decrease both of employment and economic growth of the state.

In the positive effect and the growth in the labor productivity, there are all of:

- Increase in the potential GDP by allowing more output to be produced with the same labor force, the reason for the reduction of the labor cost. There for, enhance to hire more employee.

- Increase in the wages that it increase the domestic demand.
- Increase in the wages affect positively the labor supply

1.1.2. **Real Interest Rate:**

Increases in the real interest rate increase the cost of capital and decrease the domestic demand. This later decrease the employment demand. For that, the rate of unemployment would be increased. In addition, the increase in the real interest rate affect also the labor supply with the labor demand, the matter that it increase the unemployment rate.

1.1.3. **Inflation:**

From one hand, an unexpected increase in the prices reduces the real wages, the matter that it increase the labor supply and reduce the unemployment.

¹⁹² Ibid., 13.

The increase in the real wages demands tends reverse the drop in the rate of unemployment

In the long run, the unemployment rate tends towards a level that is consistent with a stable rate of inflation i.e. the natural unemployment rate or the Non-Accelerating Inflation Rate of Unemployment NAIRU. One of the effect between unemployment and inflation, the inflation began to accelerate if the unemployment were to fall below NAIRU.

6.3.4. Terms of trade:

Favorable terms of trade shocks affect the employment positively, because it boost domestic product. A positive term of trade shocks implies increase in the prices of exports or reduction in the prices of imports. This latter suggest that one units of exports can be exchanged with more units of imports. The matter that it increase the real income, increase the domestic demand, enhance growth and create employment.

According to some official statistics about the labor market in Algeria in the period 1990-2001, just 26.5% is the exploited rate from the labor market¹⁹³. From this rate, we find that there is a low demand for work than the supply that will increase the unemployment and the work in the informal sector.

For the definition of the labor force, Total labor force comprises people who meet the International labor Organization definition of the economically active population:

“All people who supply labor for the production of goods and services during a specified period”¹⁹⁴.

2. The unemployment as Social Phenomenon:

2.1 Definition of the unemployment:

According to the International organization of labor: “the unemployed is the person in the age of work (16-60 year), able to work, looking for work in a specific wage but they don't find this work”¹⁹⁵.

¹⁹³ Lahcene BOURICHE, “Le chômage et la productivité du travail en algerie,” *Le chômage et la productivité du travail en algerie* 03 (2011): 2.

¹⁹⁴ “Statistical Year Book 2009,” 2009, 161.

¹⁹⁵ LAABED Samira and ABBAZ Zahia, “75 : (2012) 2012/2011 ”مجلة الباحث”, الطموحات و الواقع بين الجزائر بين الواقع و الطموحات

2.2 Types of unemployment

The unemployment face different changes according to the changes in the market, in the demand labor and supply of labor. Therefore, there are different kinds of unemployment and there causes.

a. **Compulsory or involuntary Unemployment:**

This kind of unemployment joined all kinds of unemployment where the individual is obliged to be fired from work and to be unemployed. These kinds of unemployment are affected by factors where the workers cannot control them. We can describe these kinds of unemployment as follows:

b. **Frictional unemployment:**

We can face this kind of unemployment when some people moving or changing occupations. Other meaning for this unemployment is when some activities face interested rate of growth especially for the activities that it use high technology and innovation. For that, we find a decline in the other activities and after it is obliged to fire the workers. So, the frictional unemployment faced in the change between activities. In addition, this kind of unemployment is founded also in the first time workers who want to change their work for a better one.

c. **Structural unemployment:**

According to the growth and technological development, many enterprises invent, innovate and use high technology by investing and exploiting new machines for the production activity, these machines replace human workers, this what we can said automation. The latest workers be fired and this is the structural unemployment because it happens according to changes in the structure of production activity.

d. **Cyclical unemployment:**

The cyclical unemployment is defined as workers losing their jobs due to business cycle fluctuations in output, i.e. the normal up and down movements in the economy as it cycles through booms and recessions over time. This kind of unemployment have seen with w big rate in the agricultural activities that are related with the seasons. This kind of unemployment find different changes, for example when business cycles are at their peak, cyclical unemployment will be low because total economic output is being maximized. When economic output falls, as measured by the gross domestic product (GDP), the business cycle is low and cyclical unemployment will rise.

e. **Seasonal unemployment:**

This kind of unemployment related with the season or with the weather, because many activities such as the agricultural activities related in the first with the weather, so in some seasons, there is free jobs and in other ones, these workers will be fired according to the end of the season.

f. **Optional unemployment:**

The optional unemployment is the chosen unemployment or voluntary unemployment. Because, according to J. Maynard Keynes, the optional unemployment are some workers who like to be unemployed rather than working in a wage less than what they want. For that, they choose and be able to stay unemployed than working¹⁹⁶.

g. **Ethnic unemployment:**

This kind of unemployment seen in the region where there is different social steps in a society, or in region where the rate of emigration is high. For that, (Laurent et al., 2013) find that the rate of emigrant unemployment is higher than native unemployment with 6 percent. For whites and black humans in US, he found also that the unemployment in black people is higher than unemployment in white's people with 9 percent¹⁹⁷.

3. Employment and unemployment in Algeria

3.1 The employment sources and unemployment in Algeria:

The employment in Algeria face different changes according to different policies created through the Algerian government to curb the unemployment from a side, and to grow up the economic level of the country from another side. To understand the important factors that it affect the employment from the independence, the table below summarize some of these factors:

¹⁹⁶ http://www.ibisonline.net/Research_Tools/Glossary/GlossaryDisplayPage.aspx?TermId=1692

¹⁹⁷ Laurent Gobillon, Peter Rupert, and Etienne Wasmer, "Ethnic Unemployment Rates and Frictional Markets," *Journal of Urban Economics* (July 10, 2013): 13, doi:10.1016/j.jue.2013.06.001.

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Table 22: sources of employment in Algeria (000s)

Period	ΔE	ΔC	ΔP	ΔM	ΔX
1973-78	704.9	1,364.8	-180.0	-518.5	38.6
1980-85	691.3	825.9	-208.9	228.0	302.3
1986-91	329.7	-707.8	375.9	384.9	276.7
1992-97	388.0				

Source: Unemployment in Algeria: , Sources, Underestimation Problems and the Case for Integration with Europe, P 22

Note:

- (1) E = Employment, C = Consumption, P = Productivity, M = Imports, X = Exports;
- (2) Reliable data for computing the sources of employment for 1992-97 were not available.

From the table number (22) we find that before 1986, the most important factor that it lead to the growth of the employment is the domestic consumption. Because, it is the only factor that it grown positively. Because, in the period 1973-1978 there was high growth in the domestic consumption with a growth of 1364800. This growth create about 705000 new jobs. In the second period 1980-1985, there was also an increase in the domestic consumption with 825900; this rate also was the highest growth in that period than the other factors such as productivity imports and exports. There for, it was the essential factor that it create about 690000 free job. After these two periods, there was a sharp decline of the employment according to the decrease in the domestic consumption and the industrial restructuration where the number of employment decline to less than the half of the employment in the previous period. For that, we find that the unemployment in Algeria face different changes over time, for the freedom until nowadays. There some researchers segment it to five steps and others into three steps, in this point we tend to globalize the different changes of unemployment in Algeria:

a. **Mid-sixties until mid-eighties (1966-1985):**

After the freedom, the Algerian government started to rebuild the economy and the society from the first according to the years and the destruction of the colonialism. In this period, the most important revenue for the Algerian economy is the hydrocarbon, because it

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face a high growth of the oil prices. This later push the Algerian government to focused all their efforts in the public sector because it provide most jobs¹⁹⁸. Therefore, it focus in the sector of hydrocarbon, and hire more employees to produce more, and it exploits also other places in the Sahara for more oil. This big step decrease the unemployment¹⁹⁹.

In this period, 51.95% of the whole investment focused in the manufacturing because the manufacture is the first sector to build the economy in addition to create the merger between different sectors of the economy. There for, the Average annual Global Industrial Investment was increased from 1.6 Milliard DA in the period 1967-1969 to 11.8 Milliard DA in the period 1970-1977. After this period, it touch 19.6 Milliard DA 1978-1985. Therefore, the rate of employment in this period touched high rates according to the growth in the demand of employee. The table below show the growth in the employment demand in this period:

Table 23: Changes in employment from 1967 to 1985 in Algeria

Year	1967	1977	1985
Employment	1748000	2336000	3840000

Source: ²⁰⁰2008 - 1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970 - 2008

Form this table; we understand that in the first ten years, there is a growth in employment with 588000 employee, this is one of the important results that the Algerian authorities tend to get that is create employment. Therefore, the medium of employment in this period was about 53000 employee. In the eights year after, the number of employment was grow with 1504000 employee until 1985. This later was so big than the previous one according to the growth in the manufacturing and the growth in the Algerian economy through the domestic production²⁰¹, the oil production and big manufactory, because it was hire in average about 122000 employee. For that and in the hand of unemployment, we found that there is an interesting decrease in the rate of unemployment from 33% in 1967 to 22% in 1977, and it decrease to 9.7% in 1985.

The chart below clarify the growth in the employment on this period, and the decrease in the unemployment. In the same period, the Algerian government created the National Bureau

¹⁹⁸ Kangni Kpodar, *Why Has Unemployment in Algeria Been Higher than in MENA and Transition Countries?*, 5.

¹⁹⁹ Lahcene BOURICHE, "Le chômage et la productivité du travail en algerie," 3.

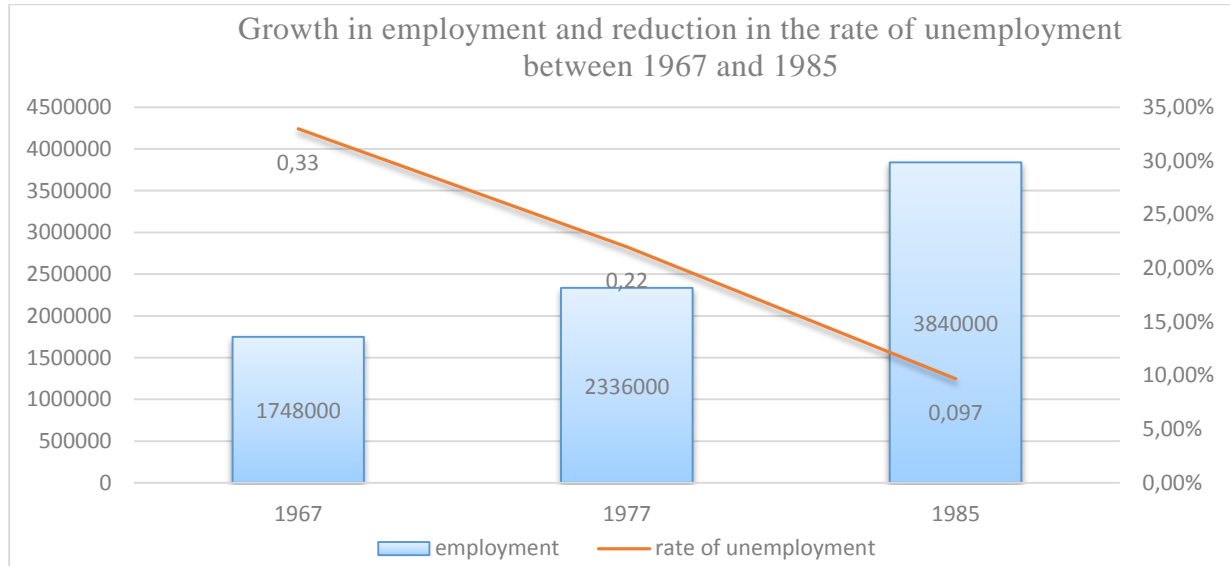
²⁰⁰ Dadene abdelghani, "180 ", 2008 - 1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970 - 2008.

²⁰¹ Abdelaziz Testas, "Unemployment in Algeria: Sources, Underestimation Problems and the Case for Integration with Europe," *The Journal of North African Studies* 9, no. 3 (2004): 20, doi:10.1080/1362938042000325796.

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of labor to absorb the maximum of employment control the labor force immigration. However according to the oil crisis, the Algerian enterprises fired many workers the matter who pushed the unemployment to increase from another time.

Figure 14: Growth in employment and reduction in the rate of unemployment between 1967 and 1985



Source: ²⁰²2008 - 1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970 - 2008

This is about the employment, in the other hand we find a decrease in unemployment as follows in the table below:

Table 24: Rates of Unemployment of Algeria in the period 1966-1985

	1966	1967	1969	1973	1977	1978	1979	1980	1981	1982	1983	1984	1985
Rate of Un	32,9	33,7	30,1	18,6	22,0	11,2	11,1	12,0	13,2	14,2	15,0	8,7	9,5

Source : National office of statistics, and BOURICHE Lahcene, «Les déterminants du chômage en Algérie : une analyse économétrique (1980-2009)»²⁰³

This table show also that different processes launched get there goals by growing economy, creating employment and alleviating unemployment. After the independence, the rate of unemployment was so high according to the worst situation of Algerian society and economy; it was 32.9%. In addition to the process of the reconstruction of the country, the number of population was grown according to the growth in the birthrate, the matter that it push the unemployment from 32.7% to 33.7%. Nevertheless, after 1967, the unemployment rate

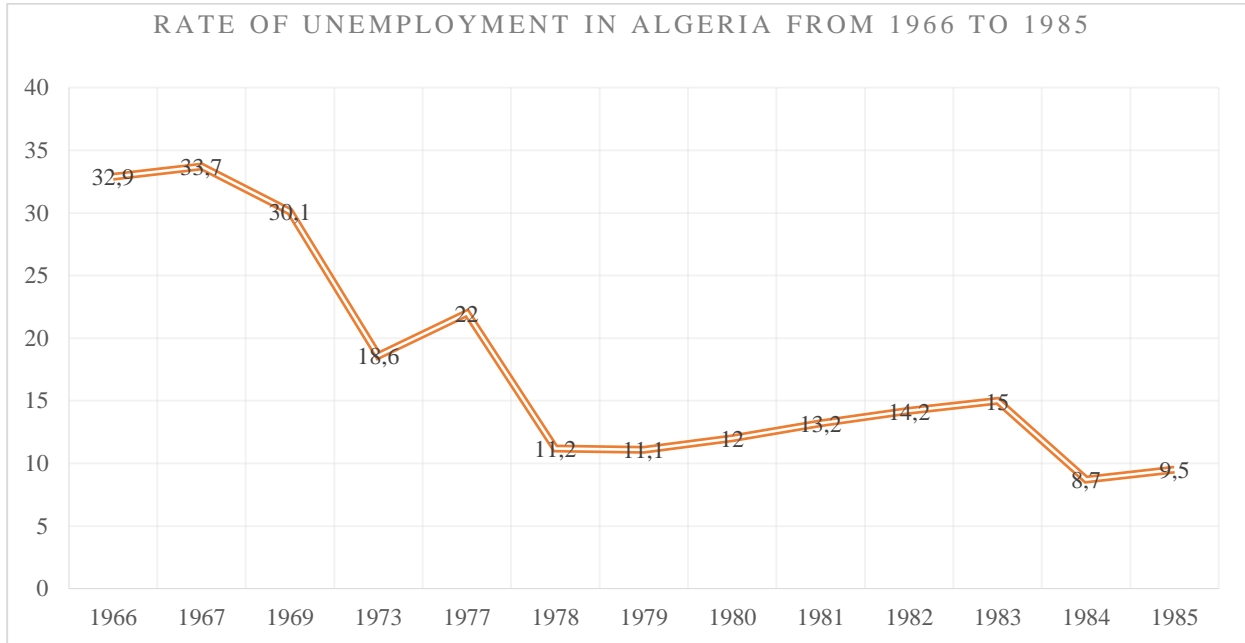
²⁰² Dadene abdelghani, "180", 2008 - 1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970 - 2008

²⁰³ BOURICHE Lahcene, "Les déterminants du chômage en Algérie : une analyse économétrique (1980-2009)."

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decreased according to the growth in economic level and new free jobs in the industrial sector. The chart below represent the decrease through different years:

Figure 15: Unemployment in Algeria from 1966 to 1985



Source : National office of statistics, and BOURICHE Lahcene, «Les déterminants du chômage en Algérie : une analyse économétrique (1980-2009) »²⁰⁴

We understand from the chart that even the growth of unemployment in some periods (Ex: 1973-1977) that it related to the growth in the birthrate, but it was decreased after that increase in 1978.

3. Mid-eighties until the last of nineties (1986-1998):

In this period, the unemployment rate faced an increase according to the crises in 1985 through the against oil choc, and because the hydrocarbon was the only bases for the Algerian economy, for that we found that there was a decrease in the Algerian exports with 35%. This later decrease the investments according to the decrease in the revenues. The matter that it push the Algerian government to take credit. The decrease in the investments is related with the decrease in the employment, the increase in the birthrate with decrease in employment create unemployment because there are people but there are not enough job for them. Therefore, there was a sharp decrease in the number of employment from 74000 in 1986 to 59000 in 1989. In addition, there was also a negative effect in the unemployment rates because the number of unemployed for 435000 in 1985 to 1150000 in 1989. There for and according

²⁰⁴ BOURICHE Lahcène, "Les déterminants du chômage en Algérie : une analyse économétrique (1980-2009)."

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to the decrease in the domestic consumption, it lead to a large disemployment effect. In the table below, there is some numbers of the employment and unemployment in the period of 1985 and 1989:

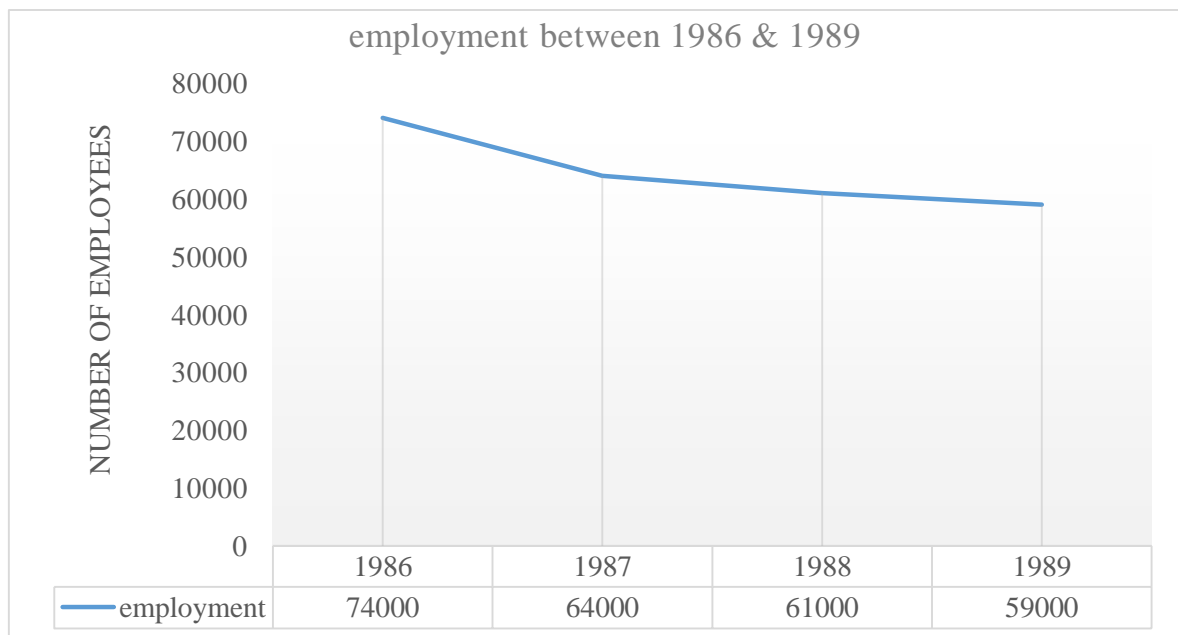
Table 25: Decrease in the number of employment in Algeria between 1986 and 1989

Year	1986	1987	1988	1989
Employment	74000	64000	61000	59000

Source: 2008 -1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة

The chart in Figure 18 demonstrate the decrease in the number of employment in the period 1986 and 1989. This decrease is one from the different results that it touch the Algerian society in that period.

Figure 16: The decrease in employment between 1986 and 1989



Source: Realized by the student according to the data in the table 25 above

The decrease in employment in chart above is correlated also with the increase in unemployment and decrease in the economy. Because enterprises do not create many free jobs according to the decrease in the in the domestic production²⁰⁵ from a side, the crisis from another side. From the interesting factor that aggravate the situation of the growth of unemployment is the industrial structuring according to the continuous growth in the birthrate,

²⁰⁵ Testas, "Unemployment in Algeria," 20.

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the unemployment will be automatically created. In the table below, there is a small picture about the increase in the unemployment presented in the four years 1986, 1987, 1988 and 1989:

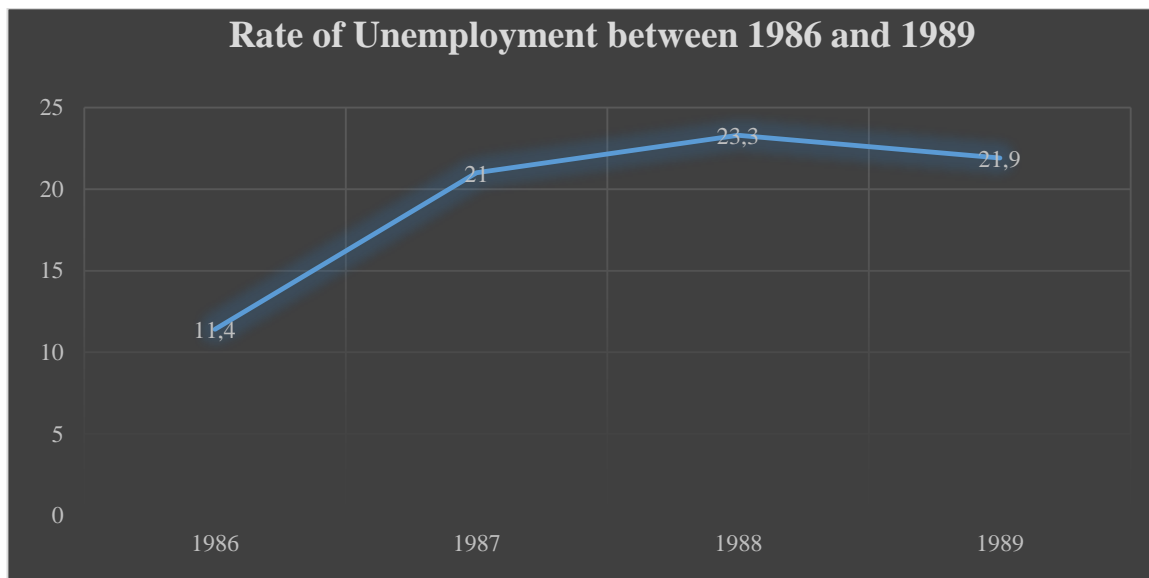
Table 26: Increase in the Rate of unemployment from 1986 to 1989

Year	1986	1987	1988	1989
Rate %	11,4	21,0	23,3	21,9

Source: 2008-1970 دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970-2008 , and national office of statistics

To clarify the data, the chart in figure 17 presents the data in table 26:

Figure 17: Increase in the unemployment between 1985 and 1989



Source: Edited by the student according to table 26 above, using Excel software

This chart illustrates the growth of unemployment in these years. The matter that shows to us that the Algerian economy is in a bad situation because it loses an interesting labor force. From 11.4% to 21% in 1987, i.e. the unemployment grew with a rate of 84, 21%. For that, we can estimate that the Algerian economy will face huge problems in addition to the unstable situation for the society through the big number of unemployed who do not find money to buy goods for their families.

In addition, this crisis touched also all sides such as social, security. Therefore, the Algerian government started to make differences and transformations in all tissues (economy, politics ...etc.)

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4. The different reforms in the Algerian economy²⁰⁶:

From the important processes that the Algerian authorities created to curb the unemployment, create employment and grow up the economy, they create different reforms to correct the situation. These reforms are shown below:

1st. First Convention on the Structural Installation in 30/05/1989:

From the most important point for this structural convention is:

- a. Use a strict financial politic to reduce the global deficit of balance sheet,
- b. Liberate the labor market to make it more flexible, this later insure the low revenues for workers. The matter that it attract the foreign investor to the exploit the lowest labor force and reduce the costs to compete in the international market.

2nd. Second Convention on the Structural Installation in 30/05/1989:

It named also stand-by convention; the Algerian government get loans with 400 million dollars in four installments, 100 million dollar in every installment in the months June 1991, September 1991, December 1991 and March 1992. From the most important goals for this convention:

- ✓ Reduce state intervention in economic activity,
- ✓ Controlling the inflation by fixing the wages and reducing the public expenditures,
- ✓ Privatizing the state enterprises that are without profitability.

After the three previous conventions, the Algerian government stayed in deficit to thrift the liquidity. This later push the government to sign:

3rd. Third conventions in April 1994:

From the goals of this convention is to:

- ✓ Restoration of the economic stability after the change to the market economy,
- ✓ Make strong structural correction for the manufactory sector,
- ✓ Push the growth economy,
- ✓ Privatizing the state enterprises and liberate the economy,

²⁰⁶ Dadene abdelghani, "180", 2008 -1970: دراسة قياسية لمعدلات البطالة في الجزائر خلال الفترة 1970-2008.

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After these three steps, the Algerian government make a deal with the IMF²⁰⁷ in May 1995 under the name of PAS (PAS: in French, it means Programme d'Ajustement Structurel, in English it is the Program for the Structural Adjustment). From the interesting goals in this program are:

- ✓ Reduce the inflation to 10.3%,
- ✓ Increase the national accumulation to finance the investment and creating employment.

After the PAS program, the unemployment did not find any decrease from 1990 until 1999, the table below demonstrate the changes in the rates of unemployment from 1990 until 1999:

Table 27: changes in the unemployment rate from 1990 until 1999

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Rate of U %	19,8	20,3	21,3	23,2	24,4	28,1	28,0	28,0	28,0	29,3
Rate of growth	-9,92	2,56	4,98	8,83	5,22	15,36	-0,42	-0,09	0,21	4,54

Source: National Office of Statistics, 2011

From the table we understand that even all the programs and reforms that the Algerian government makes them to correct the situation and reduce unemployment, but the rate of unemployment was always in increase. The chart in the figure below show the increase in the rate of unemployment from 1990 until 1999:

²⁰⁷ IMF: International Monetary Fund

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Figure 18: Increase in unemployment between 1990 until 1999



Source: Edited by the student according to table number 27

According to the chart in the figure 18 and the announcement of the employment ministry in 11 may 1998, there number of employees who lose their work is about 637188 employee. In addition, the Algerian economy inter in a weak situation make it unable to create free jobs for the job seekers in the labor, because the number of free job every year stabilize in 40000 free job between 1994 and 1997. After, the situation be more complicated according to the decrease in the number of employment that it decreased to 27000, the other matter is the growth in the birthrate where this growth need in a middle of 200000 free jobs every year. There for, the unemployment show a high increase.

From the results of these reforms:

- ✓ Decrease in the supply work to 50%,
- ✓ The state sector in the first step in the create of employment with 78%, the private sector in the second step with 17.8% and the foreign sector in the third with 4.2% according to the increase of the foreign investors.

5. From 1999 until now day:

In this period, the Algerian authorities start with new reforms and new policies to hold up the Algerian economy by enhancing the agriculture (because Algeria get a large north

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contain interesting places for the agriculture, and enhance the business and entrepreneurial actives by creating different mechanisms).

According to the increase in the prices of the hydrocarbons, the Algerian government makes the Program of Revival Economic between 2001 and 2004. For that, the state make a balance of 525 milliard DA to finance this program according to other programs such as the Program of Rural and Agricultural Development and other programs to finance the youth people to be entrepreneur.

These programs gave positive results in the first years, because if we compare between 2001 and 2003. In 2003 and according to data from the National Office of Statistics, there were at about 2.3 million unemployed people with a rate of 29.5% and this number was decrease to 2078270 unemployed in 2004 with a rate of 23.7%, this rate will decrease also in 2004 to become 17.65%. The first cause of this important decrease in the unemployment is creation of about 720000 new jobs, 230000 from it are temporary job.

The high rate of unemployment in this period is the youth unemployment. Because in 2004, the rate of unemployed under 20 years were 49%, and 44% for individuals between 20 and 24 year, without forget that about 75% of unemployed people in 2004 are under the 30 years.

Another important point about the employment creation is related with the private sector because I created about 2.5 million free jobs between 2001 and 2005.

In April 7, 2005, the Algerian government creates the fifth program for five next years (2005-2009) with a capital of 4200 milliard DA. The aim of this program is to complete the goals of the previous programs in addition to create about 2 million free jobs to absorb the high demand supply in the labor market. As a result of this program, there was a decrease in the unemployment from 15.3% in 2005 to 11.3% in 2008. From the latest news and according to the IMF prevision, they suggest that the rate of unemployment will be decreased to 9.3% in the end of 2013 according to different mechanisms and policies to enhance entrepreneurship and employment in the state²⁰⁸.

²⁰⁸ "سياسة التشغيل في الجزائر بين الارقام و واقع الاحتجاجات"

3.2 Different characteristics of the unemployment in Algeria²⁰⁹:

In Algeria, the unemployed comprises all persons above a specified age who during the reference period were:

a. **Age:**

It is necessary factor to measure the person as individual. According to the National Office of Statistics, the age to measure an individual as an unemployed is between 16 year and 60 years old. Over this field. We cannot measure the individual as unemployed

6. Without work:

That is, were not in paid employment or self-employment during the reference period,

7. Currently available for work:

That is, were available for paid employment or self-employment during the reference period; and

8. Seeking work:

That is, had taken specific steps in a specified recent period to seek paid employment or self-employment.

The specific steps may include:

- Registration at a public or private employment exchange,
- Application to employers,
- Checking at worksites, farms, factory gates, market or other assembly places,
- Placing or answering newspaper advertisements,
- Seeking assistance of friends or relatives,
- Looking for land, building, machinery or equipment to establish own enterprise;
- Arranging for financial resources,
- Applying for permits and licenses, etc.

According to the previous definitions, the number of unemployed people according to the ILO in Algeria was 1169000 unemployed in 2008 with a rate of 11.3%. In 2009, there was

²⁰⁹ "OECD Glossary of Statistical Terms - Unemployed – ILO Definition," accessed July 24, 2013, <http://stats.oecd.org/glossary/detail.asp?ID=2791>.

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a decrease in the number of unemployed people with 1.1 point. It was 1072000 unemployed with a rate of 10.2%²¹⁰.

In the table below, we demonstrate a global view about the exchanges of unemployment rate in Algeria from 2000 until 2009.

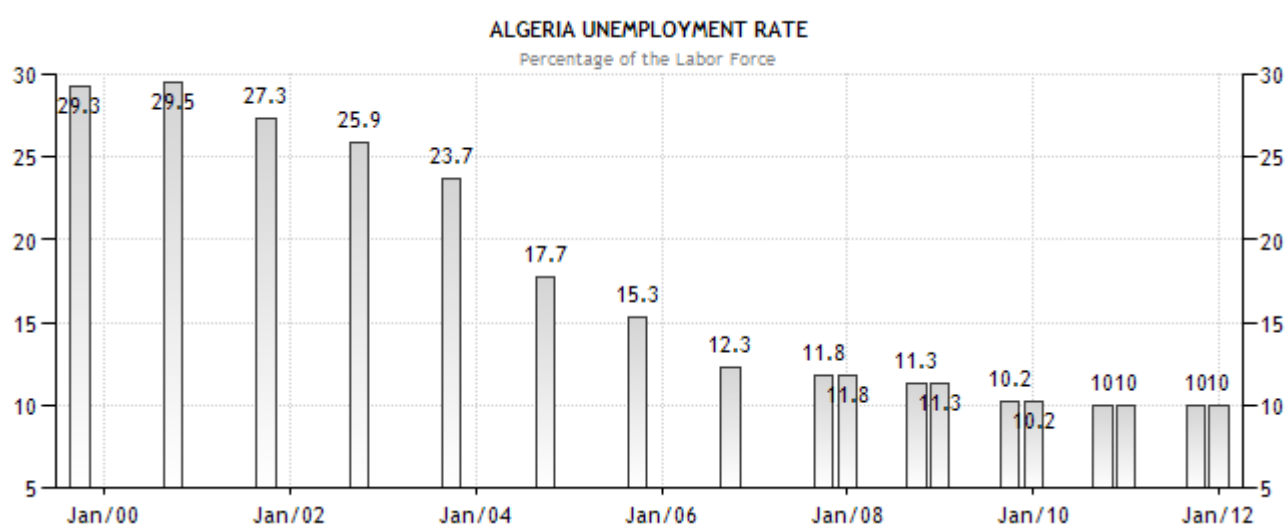
Table 28: differences in Rate of unemployment from 2000 until 2012

year	1998	1999	2000	2001	2002	2003	2004
Unemployment %	28	29,3	29,5	27,3	25,9	23,7	17,7
Rate of growth		4,64%	0,68%	-7,46%	-5,13%	-8,49%	-25,32%
year	2005	2006	2007	2008	2009	2010	2011
Unemployment %	15,3	12,3	11,8	11,3	10,2	10,1	10,1
Rate of growth	-13,56%	-19,61%	-4,07%	-4,24%	-9,73%	-0,98%	0,00%

Source : <http://www.tradingeconomics.com/algeria/unemployment-rate>

According to the Table 28, we find that there is a decrease in the rate of unemployment; this decrease is related with the different regulations to create employment and enhance the Algerian economy especially with different mechanisms such as CNAC, ANSEJ

Figure 19: Algeria Unemployment Rate 1999-2011



Source : <http://www.tradingeconomics.com/algeria/unemployment-rate>²¹¹

²¹⁰ Lahcene BOURICHE, "Le chômage et la productivité du travail en algerie," 4.

²¹¹ "Algeria Unemployment Rate," accessed July 14, 2013, <http://www.tradingeconomics.com/algeria/unemployment-rate>.

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According to the high degree of birthrate and population growth, we see from the previous chart that the unemployment get highest rates in the previous years because it was 29,3% in 2000 and it found a growth with 0,6%.

3.3 The unemployment by gender:

The female unemployment in Algeria is higher than the male unemployment because the chances of work for the male is more than the female in our economy. In the table below, there is a presentation of the changes in the rate of unemployment through sex between 2001 and 2010:

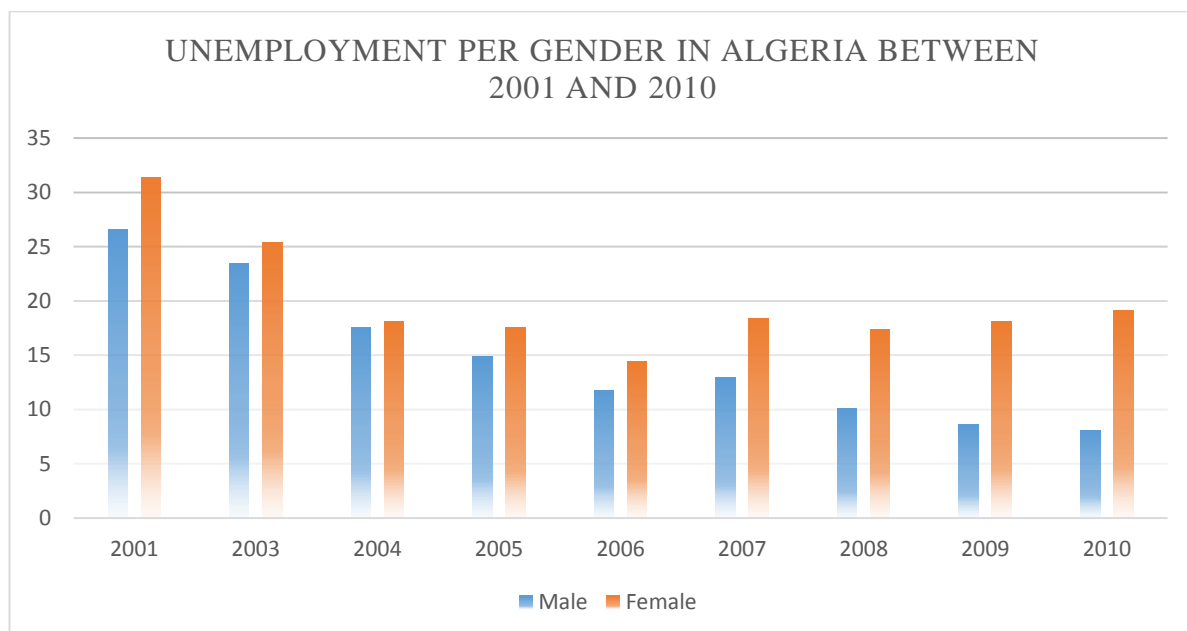
Table 29: Rates of unemployment in Algeria by gender from 2001 to 2010

	2001	2003	2004	2005	2006	2007	2008	2009	2010
Male	26.6	23.4	17.5	14.9	11.8	12.9	10.1	8.6	8.1
Female	31.4	25.4	18.1	17.5	14.4	18.4	17.4	18.1	19.1

Source: www.ilo.org

According to the table 29, the rate of female unemployed is always more than the rate of male unemployed.

Figure 20: unemployment per gender in Algeria between 2001 and 2010



Source: www.ilo.org

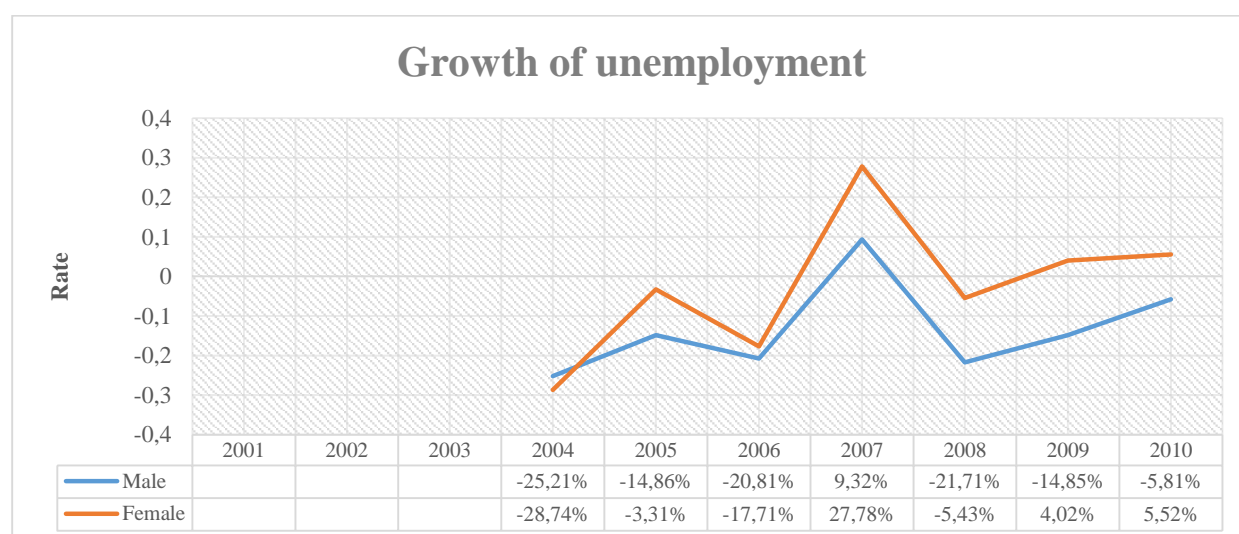
In the figure 20, we clarify the rate of unemployment per gender in the previous years, between 2001 and 2006 there is a small gap between the both (male and female). Nevertheless, after 2006, we there was a difference between the both rates. In addition, the male unemployment continue to decrease from 2001 where it was 26.6% and it was equal to 11.8% in 2006. In 2007, it faced w small growth where it equaled to 12.9%. However, it continue to

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decrease after 2007 until it equal to 8.1% in 2010. About the female unemployment, it faced a few decrease from 2001 to 2006. However, it start to grow after 2007 until it touch 19.1% in 2010.

The chart under describe the rate of growth of unemployment, it also describe the decrease of both male and female unemployment from 2004 to 2006 but with different rate. However, in 2007 both of them grow with 9.32% for male unemployment and with 27.78% for female unemployment.

Figure 21: Rate of growth of unemployment per gender between 2004 and 2010



Source: www.ilo.org

3.4 Unemployment by age and youth unemployment:

According to the NOS, the most important unemployment in Algeria is the youth unemployment because the most important rate in the population active is the youth population

Table 30: Rates of unemployment trough age and gender

year	2009		2010		2011	
	Male	Female	Male	Female	Male	Female
youth 16-24	19	34,6	18,6	37,4	19,1	38,1
Adult 25-59	5,7	14,4	5,4	15	6	12,6
Total	8,6	18,1	8,1	19,1	8,4	17,2

Source: National office of statistics, 2011

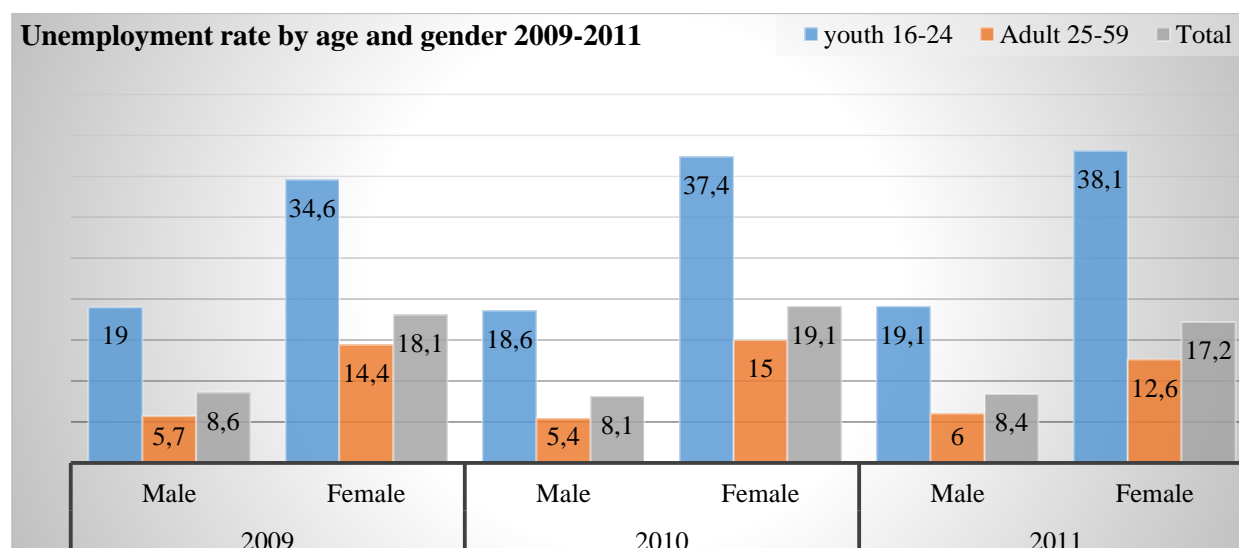
The most important unemployment in Algeria is the youth unemployment because it present the highest rates with 64.07% in 2000 and 22.4% in 2011²¹². In the table 16, we have seen that the great rate of unemployment is the youth rate. The rate of unemployment is more

²¹² "Taux de chômage, www.imf.org," flv, *Algeria News* (Algeria, May 18, 2013), <http://www.mtess.gov.dz>.

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three time than the adults unemployment. Because from important barriers in the face of the youth people is the experience from a side and the obligation of the army from another side. The rate of youth unemployment in the total rate of unemployment was 34.6% in 2009, and 38.1% in 2011.

Figure 22: Unemployment rate by age and gender



Source: National office of statistics, 2011

This chart show that the youth unemployment always getting the big rates in these three successive years. For example about the male unemployment, the unemployment in the people under 24 years is bigger than the rate in other ages. From this point, we suggest that youth people are more likely to be unemployed rather than other people.

The table below confirm our preposition about the youth unemployment because it show the big difference between youth unemployment (less than 25 year) and other unemployment in other age categories.

Table 31: repartition of rate of unemployed through age categories 2001-2008

Age categories	2001	2008
15-20	51,35	25,2
20-24	45,92	23,3
25-29	37,56	18
30-34	23,07	10,1

Source : le chômage et la productivité de travail en Algérie²¹³

²¹³ Lahcene BOURICHE, "Le chômage et la productivité du travail en algerie," 6.

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3.5 Unemployment by region:

According to the NOS statistics, the unemployment get different rates from a region to another one. From one hand, this what we could said the geographical effects in unemployment. Because in the urban area, there are much free jobs in different sectors in front of the rural areas where we find that the agriculture is the important sector there. In addition, from another hand, the urban area contain high rate of population rather than rural area because a big proportion of the people who were in the rural areas sold their properties and come back to the urban areas.

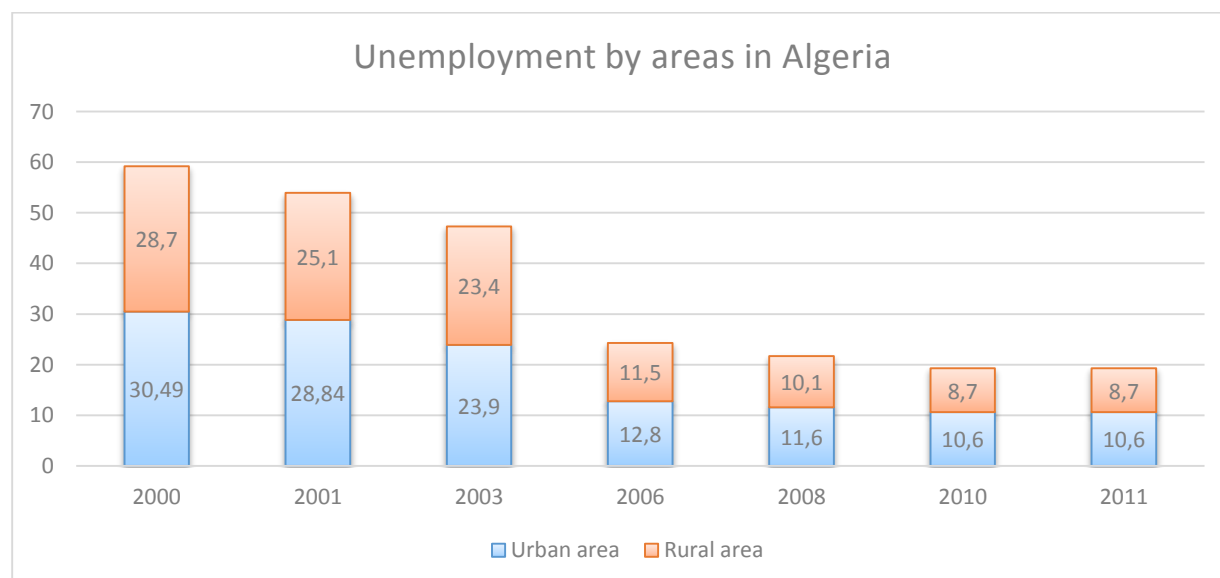
Table 32: Repartition of rates of Unemployment by area, 2000 to 2011

	2000	2001	2003	2006	2007	2008	2010	2011
Urban area	30,49	28,84	23,9	12,8	61	11,6	10,6	10,6
Rural area	28,7	25,1	23,4	11,5	39	10,1	8,7	8,7
total	29,77	27,3	23,7	12,3	13,8	11,3	10	10

Source: National Office of statistics, 2011

From the table 32, we understand that the rate of unemployment rate in the urban areas is a bit higher than the unemployment in the rural area. From the important factors, that it make unemployment in urban areas higher than unemployment in rural areas is the big population in urban areas rather than rural areas, and the rural exodus to the urban areas.

Figure 23: Repartition of Unemployment rates by area in Algeria between 2000 and 2011



Source: National office of statistics, 2011

The chart above mention the unemployment rates by region from 2000 to 2011. We found that the unemployment in urban areas is always higher than the rural unemployment in different years.

3.6 The unemployment and level of instruction:

a. Academic instruction:

One of the important factors that it help the individual to find work, the entrepreneur focus on same factor to hear new workers is level of instructions. Moreover, it is the same factor that it if we can say make the individual be late to look for work especially the academic studies in the university or the institute because it need more time to get the diploma. Some official statistics from the IMF show an interesting decrease in the unemployment from 21.4% in 2010 to 16.1% in 2011²¹⁴. This decrease returning to the facilities that the Algerian authorities make to enhance graduate people to become entrepreneur, and enhance the entrepreneurs to hire more employees in addition to the new skills that the new graduates got them rather than the older ones to keep up the development with the new technologies.

Table 33: the repartition of rate of unemployment by level of instruction: 1987, 1995, And 2008

	1987	1995	2008
Without instruction and primary level	35,2	33,1	16,1
Vocational training	n/a	11,3	n/a
Middle level	52,7	29,9	43
Secondary level	6,9	20,7	21,1
University	n/a	4,4	19,8
Not determined	5,2	0,6	n/a
Total	100	100	100

Source: National office of statistics, 2011.

In the table 33, the rate of unemployment in 1987 was high in the middle school according to the big number of student in this level from a hand, and the wake system of creating employment suitable with their knowledge from another hand. In the second place, we find the unemployment in individuals without instruction level was 35.2%, this big rate reflect the big number of individuals who don't have an instruction level and they look for work. With time and in 1995, there was a decrease in the unemployment rate in both previous categories. This decrease reflect that the number of individuals in these categories decreased, and transformed in the categories, i.e. there is a growth in the level of instruction²¹⁵.

²¹⁴ "taux de chômage, www.imf.org."

²¹⁵ Kangni Kpodar, *Why Has Unemployment in Algeria Been Higher than in MENA and Transition Countries?*, 8.

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9. Vocational training and unemployment:

The vocational training is an important factor that it reduce unemployment, because it give lessons for the individuals with training in the same time, that is the student will apply directly what did they learn in the theoretical part of lessons. For the works that it need hand skills, the vocational training is so important rather than academic studies.

Table 34: repartition of unemployment rate by level of instructions in 2010

Level of instruction	2010		
	Male	Female	Total
Without instruction	1,7	2,7	1,9
Primary school	7,5	8	7,6
Middle school	10,5	12,8	10,7
Secondary school	7	17,2	8,9
University	10,4	33,3	20,3
Diploma			
Without diploma	7,2	7,7	7,3
Vocational training diploma	10,5	20,2	12,5
Graduate diploma	11,1	33,6	21,4
Total	8,1	19,1	10

Source: www.ons.dz

Through the table 34, we touch that highest rate of unemployment is for people in the university where it touch 20.3% in 2010 in front of 8.9% for people with secondary school level. What we can understand from this point that there is not suitable job of these graduate. Where, for people with less degree of instruction, they work in other jobs. Therefore, it is necessary for the government to look for this point, and it should create suitable fields of study for a free future job. In addition to make combination between universities and enterprises to give a right picture about the professional life to the student.

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3.7 The unemployment and the informal sector in Algeria:

Working in the informal sector is the easiest way for individual to find a job and work and do not remaining in the unemployment. Because they have not the chance to work and to exploit their skills and capabilities in the formal work, there for they found that the informal sector is the easiest sector to enter and create the wealth and informal employment. For that, according the thesis of abdelkader BELARBI, who find that the informal sector play an interesting role in the Algerian economy in creating employment and wealth for the individual who found barriers to get formal work²¹⁶.

Therefore, table below show to us that there is a continuous increase in the rate in informal sector in the formal employment.

Table 35: Rate of informal employment in the total employment

Years	2000	2001	2002	2003	2004	2005	2006	2007
Rate of informal employment in total employment %	20,2	21,2	21,0	21,1	25,7	26,8	27,6	27,0
Rate of growth	n/a	4,95%	-0,94%	0,48%	21,80%	4,28%	2,99%	-2,17%

Source : le chômage et la productivité du travail en Algérie²¹⁷

In the chart, we seen there is a growth in the first year with 4.95%. After, a stagnation of growth between 2002 and 2003. In 2004, there is an increase in the informal sector with 21.80% and this is the highest rate of growth than the rates of growth in the other years.

²¹⁶ BELARBI Abdelkader, "الجزائر بين البطالة و القطاع غير الرسمي" (doctoral thesis, University of Tlemcen, 2010).

²¹⁷ Lahcene BOURICHE, "Le chômage et la productivité du travail en algerie," 7.

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Figure 24: Rate of informal employment on the total employment between 2000 and 2007



Source: National office of statistics, 2011

3.8 Important policies to improve the employment in Algeria:

From the important policies that the Algerian government should take those to improve the employment in Algeria are:

- Pursuing growth-enhancing policies that will create enough long-term employment to absorb the growing work force and reduce unemployment.
- Make structural reforms to increase the productivity that will ensure durable reduction in unemployment.
- According to Dr. BOUSAFI Kamal, from the important keys to curb unemployment is starting from the educational process²¹⁸.
- Make different policies such as promoting financial development, trade liberalization, private investment and human capital accumulation to contribute in the productivity growth.
- Enhance the private sector-led growth and investment.
- Easing restrictions on hiring and firing would make the Algerian labor market more flexible, the matter that it reduce the unemployment.
- Shortening the notification period and the length of the procedure of dismissal, lowering employer contribution intended to allow laid-off workers to receive unemployment benefits, removing the obligation to maintain the employment and activity of privatized firms. These later allow the employer to choose worker to lay-off without constraints make the market more flexible and make it easier to create jobs.

²¹⁸ "سياسة التشغيل في الجزائر بين الارقام و واقع الاحتجاجات"

4. CNAC mechanism:

From the different policies and mechanism that the Algerian authorities created them to curb the unemployment, especially to help the fired people involuntary from the enterprises according the different reforms is the CNAC mechanism. The abbreviation of CNAC is mean: CNAC: In French, it is Caisse National d'Assurance Chômage
CNAC: in English, it is the National Fund for Insuring Unemployment

The CNAC mechanism was created in July 6, 1994 according to the Executive Decree number 188-94; it is created as a state enterprise for the social guarantee to reduce the social and economic effects of firing employee involuntary.

According to the executive decree, number 03-514 in the 30th of December, 2003, the CNAC mechanism start to giving loans to the unemployed people who get a diplomat to launch his own enterprise. In the first, the sum of loan was less or equal to 5.000.000,00 AD. According to the latest changes, the sum of loan could be 10.000.000,00 AD.

The CNAC mechanism manage three programs²¹⁹:

- 1) On unemployment insurance with the processes of reintegration the unemployed people.
- 2) Supporting and enhancing the unemployed between 30 and 50 years to create their own activities.
- 3) Supporting and enhancing employment.

Until April 2008, there were a number of 11323 bankers' confirmation for the projects through CNAC, with a rate of 50% of all the received fields. In addition, there were a creation of 22169 free job.

The big part of subscribers was from 1996 to 1999, when the rate of unemployment was high. Because in the first, their goals are focused on the fired people for economic reasons. Eight years after, the role of CNAC was changed to be as the ANSEJ mechanism. it is start to help and improve the individual to create their own enterprise, the norm of the CNAC mechanism in the second step is to push the unemployed individual to be entrepreneur by informing them in the first, helping them in the finance of the project and lead them to succeed in the entrepreneurial life. Until 2006, the CNAC mechanism helped about 189830 unemployed.

The number of enterprises created by the CNAC are:

²¹⁹ Ahmed Chouki Taleb, "اليات التشغيل," mpg, *Caisse National d'Assurance Chomage* (Algeria, n.d.), www.cnac.dz.

From the departure of launching the activities through this mechanism, and with the first efforts that the mechanism used it to promote for its program and presenting it for the individuals is creating about 2500 SME's in 2004²²⁰. This first important number show that the Algerian individuals were interested for this financial mechanism to launch their activities. According to importance of the CNAC mechanism, the number of received fields grow to more than 7000 fields in the end of 2009. According to this later, the number of enterprises created touch about 8000 SME's in 2009, the matter that it enrich the economic tissue of the Algerian economy. For that, the Algerian authorities enhance this mechanism by making agencies in different Willaya in addition to making some facilities to attract the maximum number of individual to create their own enterprises through this mechanism. Therefore, from the first of 2010 until the end of April 2010, the CNAC mechanism count more than 3000 SME that it was created. This growth return in the first point according to the huge efforts of the CNAC agencies relying in the different facilities that it enhance the different individuals to create their own enterprises and by making workshops to present the new facilities. From the important goals for CNAC mechanism in 2013 is to enhance the unemployed people to create their own firms, for that it allow the unemployed to create about 35000 projects, the aim of this latest goals is to create 3000000 free job until 2014.²²¹

4.1 Formation of future entrepreneur:

One of the important point for CNAC mechanism is to teach the future entrepreneur. This study to develop the managerial and entrepreneurial notion in the entrepreneur. The animator try to give them notion for enterprises that create employment in 7 days. Other point is related with individuals without qualification; in this point the CNAC mechanism lead them to the center of formation to get qualification according to exam for the activity that he would launch it. Because it is one of the pieces of the field for getting credits.

4.2 The CSVF committee:

Before July 2008, the entrepreneur faced difficulties in the part of the bank that will be the third part with the part of CNAC and the personal part. These problems are characterized in the bureaucracy from one hand, and the long period of answering if this bank will finance this project or no. In July 2008, to facilitate the matter for the entrepreneur to get his banker, they create the CSVF committee (in French: comité de suivi, de validation et de financement),

²²⁰ Abbas Aït Hamlat, "Ahmed Chawki Taleb, directeur général de la CNAC : «Nous essayons par tous les moyens de faire face à la bureaucratie»,» 05 2010, <http://www.djazairress.com/fr/horizons/10472>.

²²¹ <http://www.echoroukonline.com/ara/articles/152974.html>

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(in English: committee for monitoring, validating and financing). This committee contains all of:

- ❖ Representative of national banks,
- ❖ The supervisor of the entrepreneur (from CNAC mechanism),
- ❖ Representative of financial service in the regional direction of CNAC,
- ❖ Representative of professional chamber concerned with the sectors,

In this committee, if the project is interesting for a banker, he will take it to finance it. In the bank, it get 2 months to give the entrepreneur the bank agreement.

4.3 FCMG (Fond de Caution Mutuelle de Garantie) :

According to the presidential decree N° 04-03 in January 03, 2003, this fund was created to save the banks from the potential risks through the deficit if the entrepreneur.

In 2012, CNAC mechanism creates at about 34801 enterprises²²², 15% (5220 enterprises) of these enterprises situated in the south of the country. From the most important sectors that it have, high rates rather than the others as agriculture, transport and merchandizing

4.4 Characteristics for the individuals to being entrepreneur through CNAC:

10. The age:

According to the presidential decree number 03-514 in December 30, 2003, the CNAC authorities make 35 year as the minimum age for the individual to become entrepreneur. Nevertheless, according to the high rate of demand of the individual less than 35 years, they reduce the age of the individual's to 30 years according to the official gazette N°10-158 in June 20, 2010 to give the chances for new individuals to create their own enterprises. Therefore, it was 35 from 2004 and it changed to 30 year in 2010.

11. Residence:

It is necessary for the individual who want to be entrepreneur through CNAC mechanism to live in Algeria.

- Do not occupy a work in the time of making the field of CNAC.
- Subscribe in the ANEM agency 6 month before as a seeker of employment or beneficiated in CNAC mechanism. This period was one of the important factor that it make the period so long for getting loan. Therefore, they reduced it to one month in 2008; nowadays they allow the individual in the same day of subscription to make the field of CNAC.

12. Qualification:

Getting a professional qualification or diploma about the activity that he want to launch

²²² Lamia O., "Régions du Sud: La CNAC ouvre ses portes aux jeunes," 2012, <http://www.lemaghrebzd.com>.

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13. Ability:

Able to manage financial entities to finance the project,

14. Previous activity:

Did not launch any personal activity in the previous 12 months.

- Did not get a credit from other mechanism for being entrepreneur.

4.5 Financing the project:

According to the sum of loan, in the first the CNAC was fix the sum of loan in 5.000.000,00 AD. The loan was containing three part of contributor:

- ✓ The personal part
- ✓ The bank part
- ✓ The CNAC part

The table below demonstrate the rates of these three part:

Table 36: three parts of loans in normal areas

The Sum	Personal part	PNR (CNAC) part	Bank part
Less or equal to 5.000.000,00	5%	25%	70%
Between 5.000.001,00 and 10.000.000,00	10%	20%	70%

Source: www.cnac.dz

In the specific area as the south and high plateau, the rates is changed as follow:

Table 37: three parts of loans in specific areas

The Sum	Personal part	PNR (CNAC) part	Bank part
Less or equal to 5.000.000,00	5%	25%	70%
Between 5.000.001,00 and 10.000.000,00	8%	22%	70%

Source: www.cnac.dz

According to this table, we understand that the Algerian authorities give some interest to the specific zone than the north to enhance the investment in these areas in the first, and to grow up the rate of living there.

After the different analysis of the CNAC authorities where they found that the personal part present an obstacle to the individuals who want to get loan and launch his enterprises, they reduce from this part to 1% and 2% percent according to the sum of loan. The table below present these changes:

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Table 38: new rates of personal part

The Sum	Personal part	PNR (CNAC) part	Bank part
Less or equal to 5.000.000,00	1%	29%	70%
Between 5.000.001,00 and 10.000.000,00	2%	28%	70%

Source: www.bdl.dz

Another reduction related with the rate of interest and according to the presidential decree N° 03-514 in December 30, 2003, the bank reduce the rate of interest with 75% for the entrepreneur in the sectors below:

- Agriculture,
- Hydraulic,
- Fishing.

For the others, the banks give reduction with 50% in the rates of interest.

Nevertheless, for the specific area, the reduction in the rate of interest as follows:

- 90% in the specific sectors (agriculture, hydraulic and fishing),
- 75% in the other sectors.

After that, and according to the high sum of materials and raw materials in the market that was presented as one of the big barriers, the CNAC authorities grow up the sum of loan from 5.000.000,00 to 10.000.000,00 AD. All of these facilities just for enhance the individual to being entrepreneur.

4.6 Steps and efforts to enhance the CNAC entrepreneurs:

According to the different problems and barriers that the entrepreneurs face them in the entrepreneurial life and the vibrant economic environment, the CNAC authorities create some interesting facilities in the use of the entrepreneur to ease the processes of projects. These facilities are divided in to steps according to the period of the project:

a. In the period of execution

In this period, CNAC mechanism allows the individual who want to get loan to get:

- ✓ Exemption from the fee to the adding value for the materials and services related with the execution of the project,
- ✓ Reduction of 5% from the customs fee,
- ✓ Exemption from property transfer fees on real estate Holdings,
- ✓ Exemption from registration fees on contracts for the establishment of companies,

5 In the period of exploitation

During the period of exploitation, the CNAC mechanism gives some interesting exemptions for the entrepreneur during the first three years of exploitation. These exemptions are characterized in:

- ✓ Exemptions from taxes on total incomes (IRG),
- ✓ Exemption from tax on profits of the society (IBS),
- ✓ Exemption from tax on professional activity (TAP),
- ✓ Exemption from property tax on buildings

According to the Presidential Decree N° 12-23 in the Official Gazette of the Algerian Republic N°.04 in January 18, 2012, the Algerian authorities give them 20% of public procurement to support the small and medium size enterprises created by the different mechanism and helping them in their professional life.

One from the important steps to enhance the entrepreneurs through CNAC is helping them to find places for work. There are two examples in Algeria situated in the east of especially in both wilayas of Setif and Annaba. They census the enterprises for collection and waste treatment to help these enterprises in realizing the activity in the environment from a hand, and to contribute in the environment cleaning, plus contributing in creating employment for the unemployed people.

4.7 National data about CNAC:

According to the data gathered from the CNAC agencies, table below contain some important data about the number of enterprises and comparison between provisional created employment and real created employment in all wilayas of Algeria. First, we segment Algeria to different regional agencies:

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Table 39: number of enterprises through CNAC mechanism and created employment until 31 may 2008, Algeria

regional agencies	number of enterprises		number of employees	
	just in law	in activity	prevision	created
Algiers agency	801	557	2248	1606
Annaba agency	1203	869	3107	2050
Batna agency	624	310	1663	828
Bechar agency	297	136	860	299
Blida agency	733	241	1785	629
Chlef agency	338	110	846	228
Constantine agency	689	500	2364	1453
Oran agency	996	239	1810	569
Ouergla agency	378	254	1025	447
Setif agency	520	247	1717	556
Sidi Belabess agency	777	330	2141	822
Tiaret agency	585	316	1202	483
Tizi ozou agency	715	304	1719	545
Total	8656	4413	22487	10515

Source: data from the CNAC mechanism²²³.

The previous table contains four different columns of data, two columns for number of enterprises and the others for the created employment.

4.8 The goals of the CNAC mechanism:

In the first, the goal of CNAC mechanism was characterized in²²⁴:

- Helping the unemployed people by making a symbolic profit for three years to insure the social and medical needs of the unemployed.
- After the first point, the unemployed could benefit other processes characterized in helping it to find work by giving the employee other advantageous as:
 - Formation and vocational training to improve the skills and the experiences of the unemployed ,
 - Helping the unemployed to look for work in the research center of employment. The period of the formation is 21day, in this period the unemployed will learn the ways and processes of looking for work.

²²³ BOUABDELLAH Hiba and HADJ MOUSSA Souhila, " دور الوكالة الوطنية لدعم تشغيل الشباب و الصندوق الوطني للتأمين عن البطالة في انشاء و تمويل المؤسسات المصغرة بالجزائر. " 2010, 12.

²²⁴ Merghad Lakhder and Djellab Mohammed, " الية انشاء و مرافقة المؤسسات الصغيرة و المتوسطة في ضوء الفكر المفاولاتي. " 7.

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- The newest role of the CNAC mechanism is to enhance the unemployed and change it from job researcher or job seeker to job creator.

4.9 Previsions of CNAC mechanism:

According to the interesting goals of the CNAC mechanism as enhancing unemployed to create their own enterprises. The CNAC authorities make some prevision to achieve them. From these prevision, the table below present some prevision from 2005 to 2013 divided into four periods.

Table 40: prevision of CNAC mechanism

		Number of micro-enterprises	Number of employees	average of employees
	CNAC 2005-2007	7569	20757	3
	CNAC July 2008	1786	2398	2
Prevision	CNAC December 2008	10000	33500	4
	CNAC 2009-2013	69300	227200	4

Source : <http://www.mtess.gov.dz>

From this table, we found that:

From the departure of CNAC mechanism to 2007, there are about 7569 enterprises created. These enterprises hire about 20757 employees with a medium of three employees per enterprise.

After this period, this mechanism created also 1786 enterprise with 2398 employee with a medium of two employees per entrepreneurs. For that, we find that in the end of July 2008, the total number of entrepreneurs is about 9355 entrepreneurs with a number of employees of 23155 employees.

In the end of 2008, the CNAC authorities make prevision to create 10000 enterprises with an average of four employees. This step enhances to create about 33500 free jobs that it will reduce the unemployment in our society.

After that, they make previsions for four years from 2009 to 2013. About the number of the firms, they make prevision to create about 69300 firms with an average of 17325 firms per year, the matter that it push to create about 22700 free jobs with an average of 4 employees per enterprises. For that, we can always suggest that it is the best mechanism to reduce unemployment.

4.10 Problems and barriers for the CNAC entrepreneur in Tlemcen:

1. One of the most important barriers for the new entrepreneurs through CNAC mechanism especially the Small and Medium Sized enterprise is the high level of competition with the strong competitor. For that, the Algerian government gives them a rate of 20% of the projects. Nevertheless, the problem is the bureaucracy; this later pushes the administration to do not applied this point and give these SMEs the chance to work.

2. Another problem is related with the price of the materials. Because and according to the high rate of the demand of the material, the supplier seize the opportunity to sell more materials, the aim that make the entrepreneur in a problem according to the difference in the costs of material between the first step in proforma invoice and the real invoice.

CONCLUSION

According to this chapter, we knew that the employment and unemployment change according to the procedures taken by the Algerian government. Therefore, we can suggest that there is a relation between both of employment, unemployment and entrepreneurship. For that, we will discuss in the empirical study about the contribution of entrepreneurship in curbing unemployment. In addition, we can understand also that the Algerian is the first government that it make mechanism to enhance the unemployed people to create their own enterprises. There is a public word that it is used “chomeur promoteur”, that is transform the unemployed person to an entrepreneur, from a job seeker to job creator. It is an investment in employment. All that, to curb the unemployment, the source of different social problems, in addition to the unutilized labor force of the graduate unemployed. Therefore, it is an interesting investment from the Algerian government to invest in the employment, because it is from the important resources in the production, the labor force.

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Introduction

Entrepreneurship really affect the unemployment and contribute to decrease it but the results can be visible four eight years and more²²⁵. Therefore, in this chapter we try to measure all of:

In the first: the employment in Tlemcen in different years. After that, I tried to measure the rates unemployment in different years and how it changed according to different procedures. Next, I try to give a global view about the entrepreneurs through CNAC in Tlemcen from 2005 until the end of 2012. In the end, I try to use econometric methods to analyze the contribution of entrepreneurship in curbing the unemployment.

1. Employment and unemployment in Tlemcen:

1.1. Active population between 1998 and 2008:

The active population is defined according to the business dictionary as the fraction of either population that is employed or actively employment²²⁶. According to the ILO,"the economically active population comprises all persons of either sex who furnish the supply of labor for the production of economic goods and services as defined by the United Nations systems of national accounts and balances during a specified time-reference period"²²⁷. The active population includes both genders male and female from 15 years to 60 years old. The table below present comparison of active population in two different years with a difference of ten years to understand the effect of the development according to the number of active population in Tlemcen. In the table below, we segment it according to the ages into nine categories of population with a fixed distance measured by 5years between each two categories of age. In 1998, we find that the biggest rate is for the youngest group between 15 years and 19 years. This category represents 19.56% of the huge active population with a number of 100642 individual. This big rate returned to the different policies from the government to enhance the families to get many people with a goal of the state reconstruction. After this category, we find a continuous decrease in the other categories according to the lowest level of birthrate in the previous years, and the growth of killed people in the dark decade. To clarify

²²⁵ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?".

²²⁶ "What Is Economically Active Population? Definition and Meaning," *BusinessDictionary.com*, accessed October 13, 2013, <http://www.businessdictionary.com/definition/economically-active-population.html>.

²²⁷ ILO, "Resolution Concerning Statistics of the Economically Active Population, Employment, Unemployment and Underemployment," October 1982, http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087481/lang--en/index.htm.

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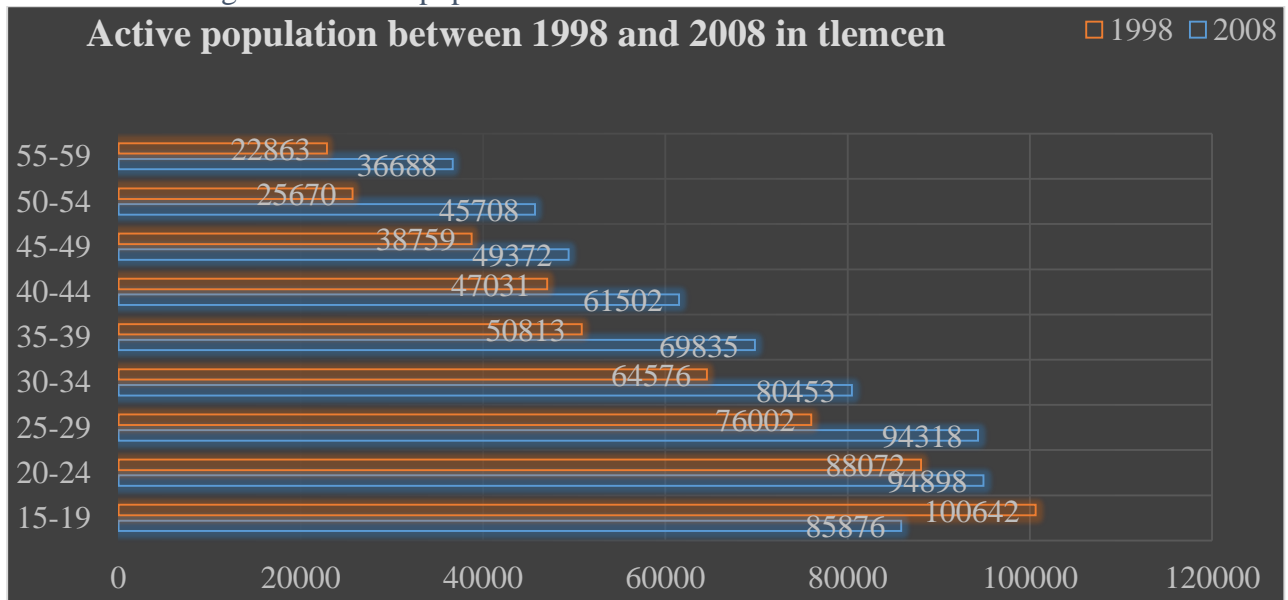
the real different between the two years, the chart below represent a clear picture about these categories.

Table 41: active population between 1998 and 2008 in Tlemcen

Active population	2008	1998
15-19	85876	100642
20-24	94898	88072
25-29	94318	76002
30-34	80453	64576
35-39	69835	50813
40-44	61502	47031
45-49	49372	38759
50-54	45708	25670
55-59	36688	22863
	618650	514428

Source: Office of the informational system, data and statistics about budget and local balances- Tlemcen-, 2012

Figure 25: active population between 1998 and 2008 in Tlemcen



Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

From the figure26, the active population contains younger individuals than older one. The young population it is the most active, motivated for work. We can estimate that if this category of people finds suitable jobs, the economy if Tlemcen region will grow according to the adding value through this category. In comparing for a decade, we find that in 1998 there

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were 514428 individual in active population. After ten years, there were 618650 individual. In look for the composition of this category, we find that individual with less than 19 years is the highest rate, after individuals less than 24 years, i.e. the Algerian full of young active population that it able for work.

The active population contain both genders male and female; the table below show the segmentation of active population by gender:

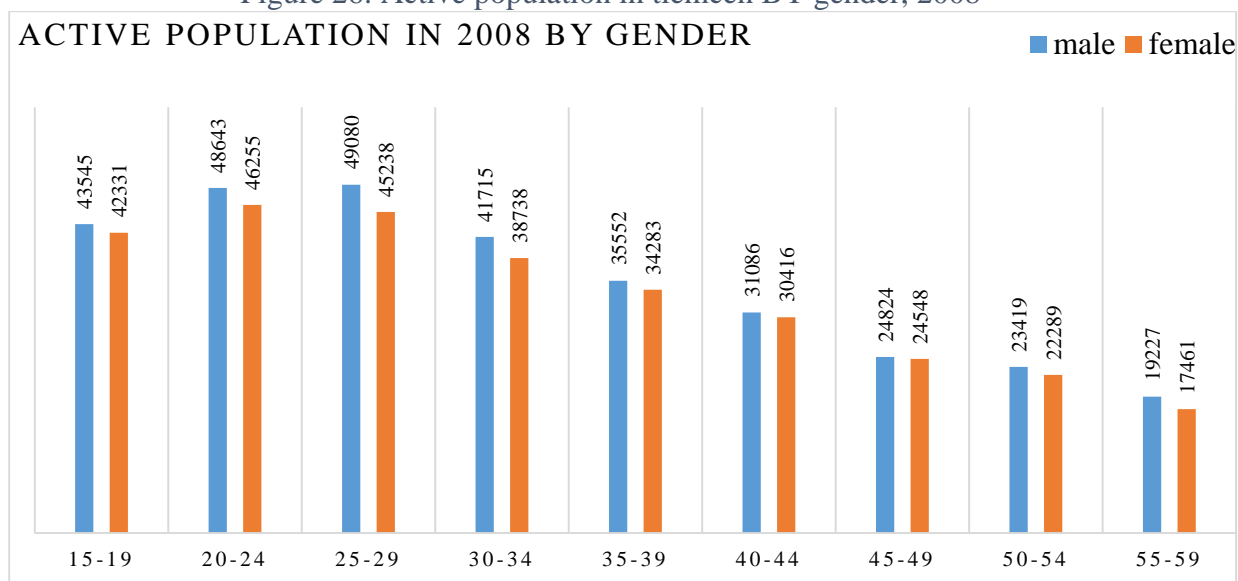
Table 42: Segmentation of active population in Tlemcen by gender in 2008

active population in 2008	male	female	Total
15-19	43545	42331	85876
20-24	48643	46255	94898
25-29	49080	45238	94318
30-34	41715	38738	80453
35-39	35552	34283	69835
40-44	31086	30416	61502
45-49	24824	24548	49372
50-54	23419	22289	45708
55-59	19227	17461	36688
Total	317091	301559	618650

Source: Office of the informational system, data and statistics about budget and local balances

- Tlemcen-, 2012

Figure 26: Active population in tlemcen BY gender, 2008



Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

As it shown in the figure above, the big rate in the active population is from the people between 20-24 years. The later show that if there are free jobs for this active population, it will create big added value, and will increase the economic level of the region in addition to not accounted as unemployed.

1.2. Job creation in Tlemcen in the decade 2000-2010:

According to the social stability in the Algerian society, the employment start to grow again according to the growth in different sectors from a hand, and the different policies created by the government to enhance employment and grow up the economic side of the societies.

Table 43: Growth in the job creation in Tlemcen from 2000 to 2010

years	2000	2001	2002	2003	2004
Jobs created	15570	26587	30086	19504	21244
2005	2006	2007	2008	2009	prevision 2010
23199	23992	25532	41269	4347	47800

Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

The employment face a stagnant interesting growth from 2000 to 2002 according to the growth of number of firms in different sectors. This later related also with the growth in the active population.

The created job divided in general into two categories of jobs:

Permanent job: this kind of job founded with a high rates in the state enterprises and organization, i.e. the worker occupy the job permanently

Temporary job: this kind of jobs related with jobs with a short period. This kind of jobs founded in the private enterprises because the boss cannot ensure a permanent job for a worker, or in the state enterprises for the jobs related with the latest mechanism as ANEM.

The table number (43) gives a picture about the segmentation of jobs between permanent and temporary jobs in Tlemcen.

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Table 44: growth of permanent and temporary jobs created in Tlemcen from 2006 to 2009

<i>principal indicators</i>	2000	2001	2002	2003	2004	2005
<i>total permanent jobs created</i>	3769	4551	6500	6401	4851	5896
<i>total temporary jobs created</i>	11801	22046	23586	13103	16393	17303
<i>total jobs created</i>	15570	26587	30086	19504	21244	23199
<i>principal indicators</i>	2006	2007	2008	2009	Prevision 2010	
<i>total permanent jobs created</i>	6738	6007	9637	1967	8025	
<i>total temporary jobs created</i>	17254	19525	31632	2380	39775	
<i>total jobs created</i>	23992	25532	41269	4347	47800	

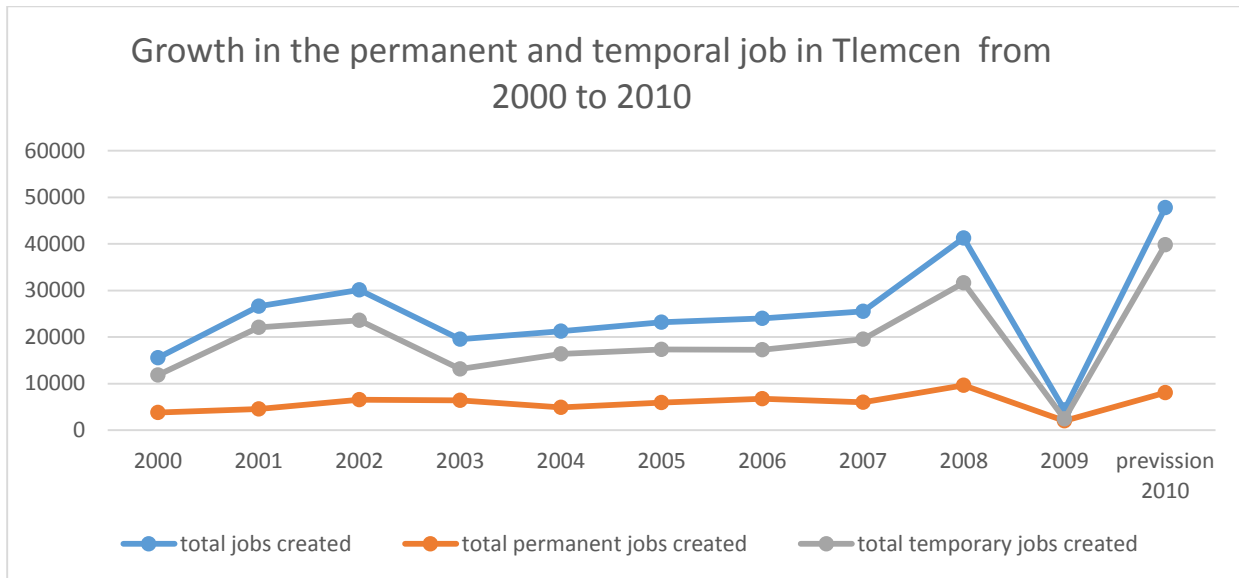
Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

From the table, we understand that the temporal job represent the biggest rate of created employment in all periods than the permanent jobs. For example, from the 15570 job created in 2000 there is more than 11000 jobs are temporary job. From this table we find also that the temporary jobs represent the biggest rate of jobs than the permanent jobs. This latest make the workers working in unstable environment, and they are afraid of firing for the smallest problem. For this matter, we find that there is a big rate of employed persons change the temporal job to permanent job.

These kinds of employment also find different changes from 2000 until these latest years. In the chart below, we find that there are different changes in the created jobs:

From 2000 to 2003: in these four years, there is an important growth from 11801 in 2000 to 23586 in 2002 in the number of temporal jobs in the first three years with a stagnant growth in the permanent ones from 3769 in 2000 to 6500 in 2002. After 2002, there is a decrease in the global created jobs according to the decrease in temporal jobs from 23586 in 2002 to 13103 in 2003. After this decrease, this was a stagnant increase in the number of temporal jobs until 2007. After this year, this is an important growth in the temporal jobs according to the creation of ANEM agency that it help the enterprises to hire more workers for one year without costs. The figure 28 presents the different changes in the temporal and permanent jobs from 2000 until 2010:

Figure 27: Growth in the permanent and temporal job in Tlemcen from 2000 to 2010

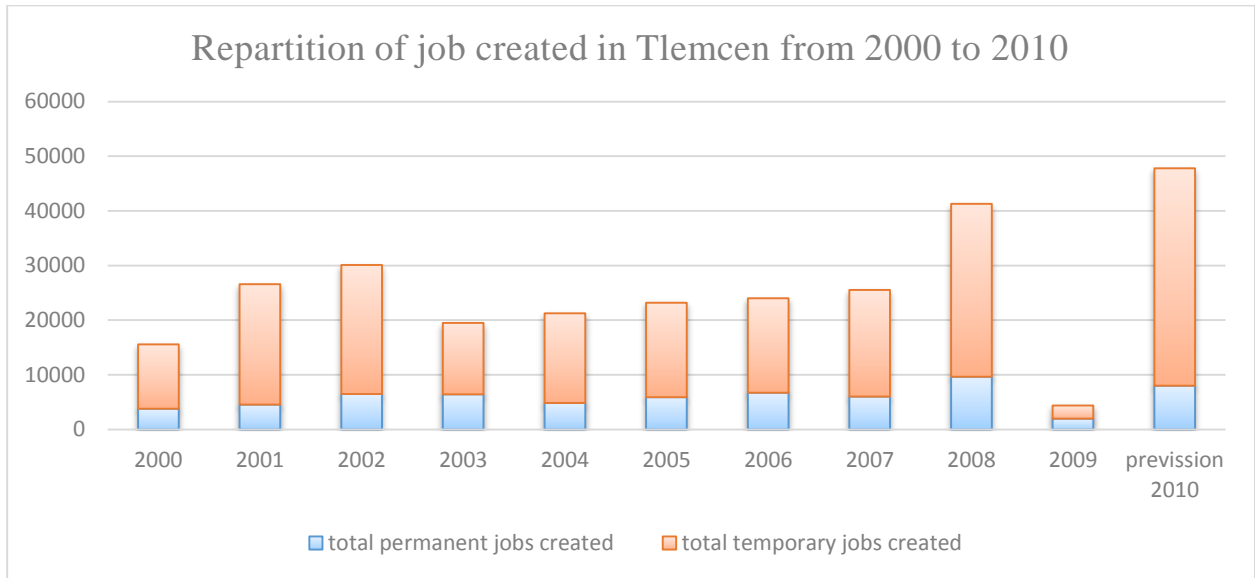


Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

To clarify the different rates of total permanent jobs created and the temporary jobs created, the figure 28 show that in all years (from 2000 to 2010), the number of temporary jobs are more than the permanent jobs. For that, we find that the employed people in temporary jobs are always afraid to lose their jobs according to different problems or mistakes. Therefore, the majority of them look always for a permanent job even with less wage, but with more security for do not losing the job.

The chart in figure 28 represent data in table 43:

Figure 28: repartition of jobs created in Tlemcen from 2000 to 2010



Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

The temporary jobs: we see that the temporary jobs touch an important variable growth according to the number of enterprises created over years from 2000 to 2010. Therefore, we can say that it is an important key to reduce unemployment but in short time.

The permanent jobs: as we seen, there is not a big difference between different years, in addition to the big difference between the temporary jobs and permanent jobs. For that, we can confirm that it is a policy to create permanent jobs as number of free jobs open (demand=free jobs).

2. Segmentation of employed population by sector of activity in 2000-2010:

In the dark decade (1990-2000), there was a decrease in all sectors of activities according to the no security in addition to the bad image of the Algerian societies in the world. After this period, there was an interesting growth in all activities, through the enhancement of individual to be entrepreneurs. In addition, there is growth in the number of graduates who become new skills in the labor market.

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For that, the table number 44 present some important data:

Table 45: segmentation of employed people by sector of activity in Tlemcen from 2000 to 2010

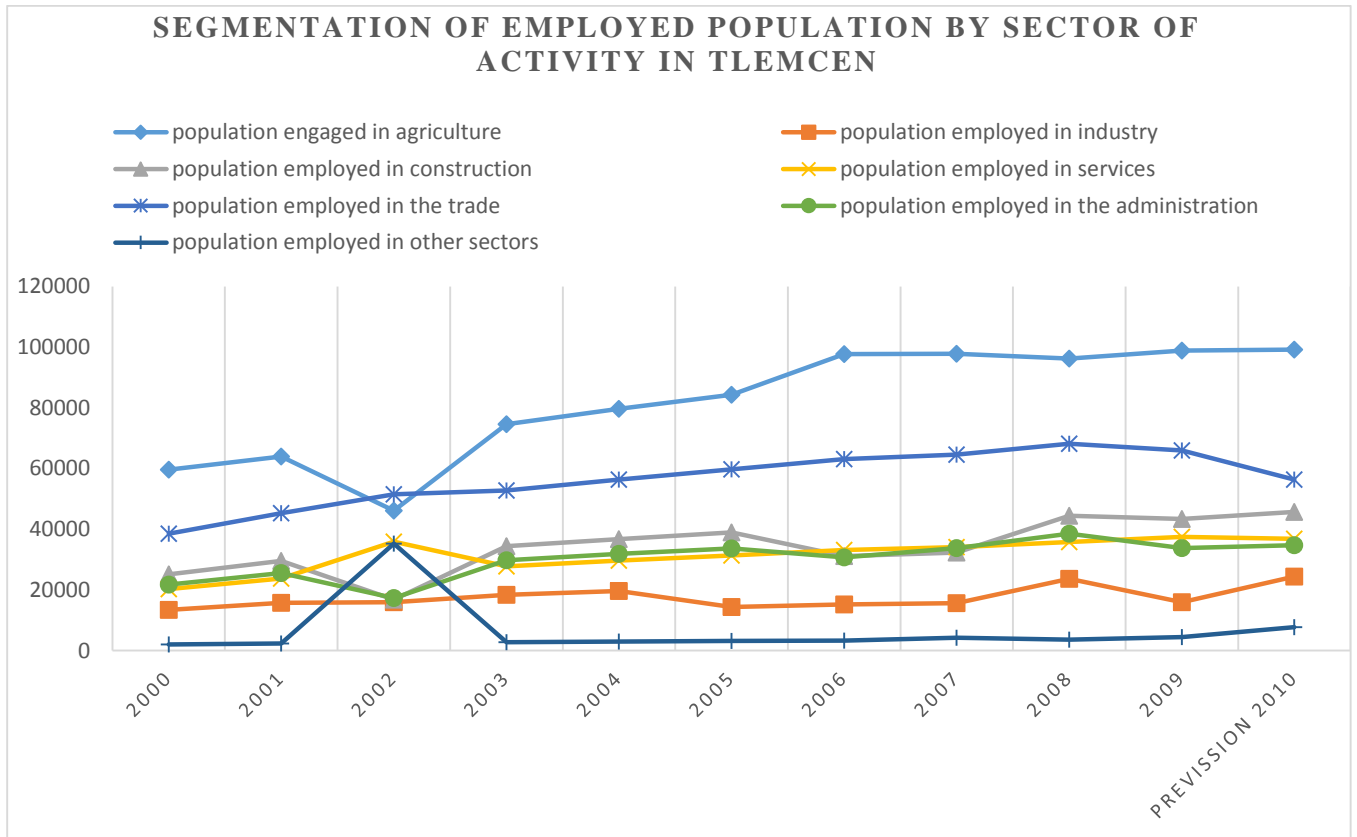
principal indicators	2000	2001	2002	2003	2004	2005
population engaged in agriculture	59632	63988	46163	74595	79704	84352
population employed in industry	13406	15751	15989	18362	19620	14380
population employed in construction	25137	29533	16860	34428	36787	38932
population employed in services	20271	23810	35895	27764	29666	31396
population employed in the trade	38557	45301	51541	52810	56420	59708
population employed in the administration	21785	25595	17344	29838	31882	33741
population employed in other sectors	2056	2416	35250	2810	3009	3184
total employed population	180844	206394	219042	240607	257088	265693
principal indicators	2006	2007	2008	2009	Prevision of 2010	
population engaged in agriculture	97675	97870	96238	98849	99158	
population employed in industry	15224	15644	23689	15971	24408	
population employed in construction	31120	32321	44417	43433	45765	
population employed in services	33200	34156	35819	37534	36906	
population employed in the trade	63150	64608	68132	65940	56420	
population employed in the administration	30733	33824	38495	33824	34724	
population employed in other sectors	3368	4300	3634	4500	7720	
total employed population	274470	282723	310424	300051	305101	

Source: Office of the informational system, data and statistics about budget and local balances- Tlemcen -2012-

The table 44 clarify the growth of the employment in all sectors. From this table, we find that the big number of employees focused in the agricultural sector because it is the most sector that it need big number of employees rather than materials, The majority of these employees are with less level of instructions. In the period 2001-2003, there was a decrease in the number of employees in this sector and in the same year, there was a growth in the number of employees in the other sectors. However, after 2003, there was stability in the growth of the employees in the agricultural sector. In the second place, we find that the number of employees in the trade sector was 56420 employees; this reflects that the employees look for launching private trade

rather working in other places. After, we find the construction because it is from the important sectors that it creates employment. Next, there is work in administration and services and industries. The figure 30 clarifies the growth in these sectors by time.

Figure 29: Segmentation of employed population by sector of activity in Tlemcen



Source: Office of the informational system, data and statistics about budget and local balances - Tlemcen-, 2012

3. The unemployment in Tlemcen from 2000 to 2011:

The unemployment faces a decrease in the latest years according to different policies from the government. The table 45 below presents the different rates of unemployment in Tlemcen from 2000 to 2011. As we find in 2000, the unemployment rate was high (28.13%). This rate was high according to the previous black decade of Algeria, and the low rate in economic growth and development. After that, we find that the unemployment start to decrease directly until it was 20% in 2005. According to the growth in the birthrate after 2000, when there was a probability of the high rate of unemployment according to the increase in the number of employment seekers. However, there is a decrease in the rates of unemployment, which it pushes us to confirm that the different policies used by the authorities to create employment get the good goals of reducing unemployment. In addition to knowledge spillover of different mechanisms to be entrepreneur, the unemployment continue to decrease from 20% in 2005 to 15.98% in 2006 until it was 6.85% in 2011. From these latest data, we can said that

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the different policies used for curbing unemployment and creating employment are best chosen. The table 45 below show the decrease of unemployment rate in Tlemcen from 2000 to 2011:

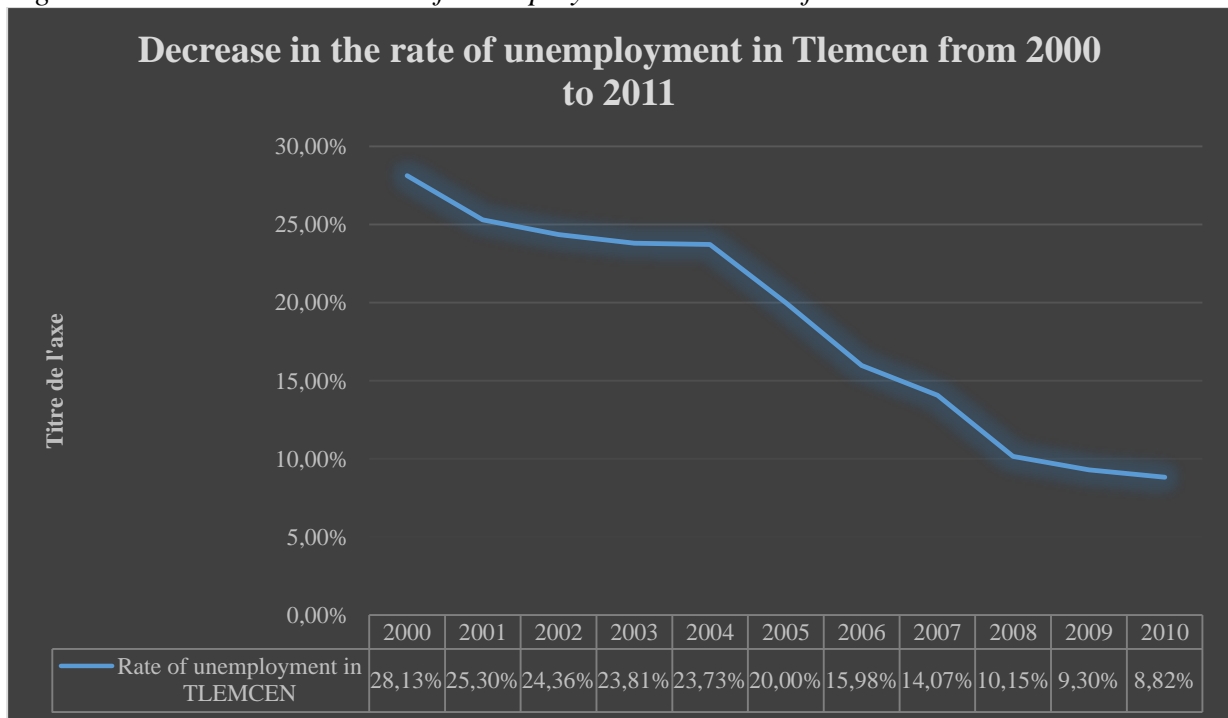
Table 46: Changes in the unemployment rate in Tlemcen from 2000 to 2011

Years	2000	2001	2002	2003	2004	2005
Rate of unemployment in Tlemcen	28,13%	25,30%	24,36%	23,81%	23,73%	20,00%
Years	2006	2007	2008	2009	2010	2011
Rate of unemployment in Tlemcen	15,98%	14,07%	10,15%	9,30%	8,82%	6,85%

Source: Office of the informational system, data and statistics about budget and local balances- Tlemcen-2012-

To illustrate more the table, the chart below represent the data in a graph show decrease of unemployment in different steps.

Figure 30: Decrease in the rate of Unemployment in Tlemcen from 2000 to 2011



Source: Office of the informational system, data and statistics about budget and local balances- Tlemcen-2012-

Empirical study about the contribution of Entrepreneurship through CNAC mechanism in absorbing unemployment in Tlemcen.

4. Data of entrepreneurship from CNAC in Tlemcen:

According to the data that we get from CNAC office concerning the number of entrepreneurs from the 2004 until 2012. We found that the first entrepreneur in Tlemcen launch his activities in the sector of transport in 27/02/2005. Until the end of December 2012, the CNAC mechanism created at about 2398 enterprises.

In the graph bellow, I will try to make global observation about the rates of enterprises through the available factors. We use SPSS 20 to facilitate the analysis of data

4.1. Segmentation by Gender:

In the table below, we define the gender of individuals, who gets loan to create the enterprises:

Table 47: segmentation of entrepreneur by Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	2137	89,1	89,1	89,1
Female	261	10,9	10,9	100,0
Total	2398	100,0	100,0	

Source: edited by the student through Data gathered using SPSS 21.0

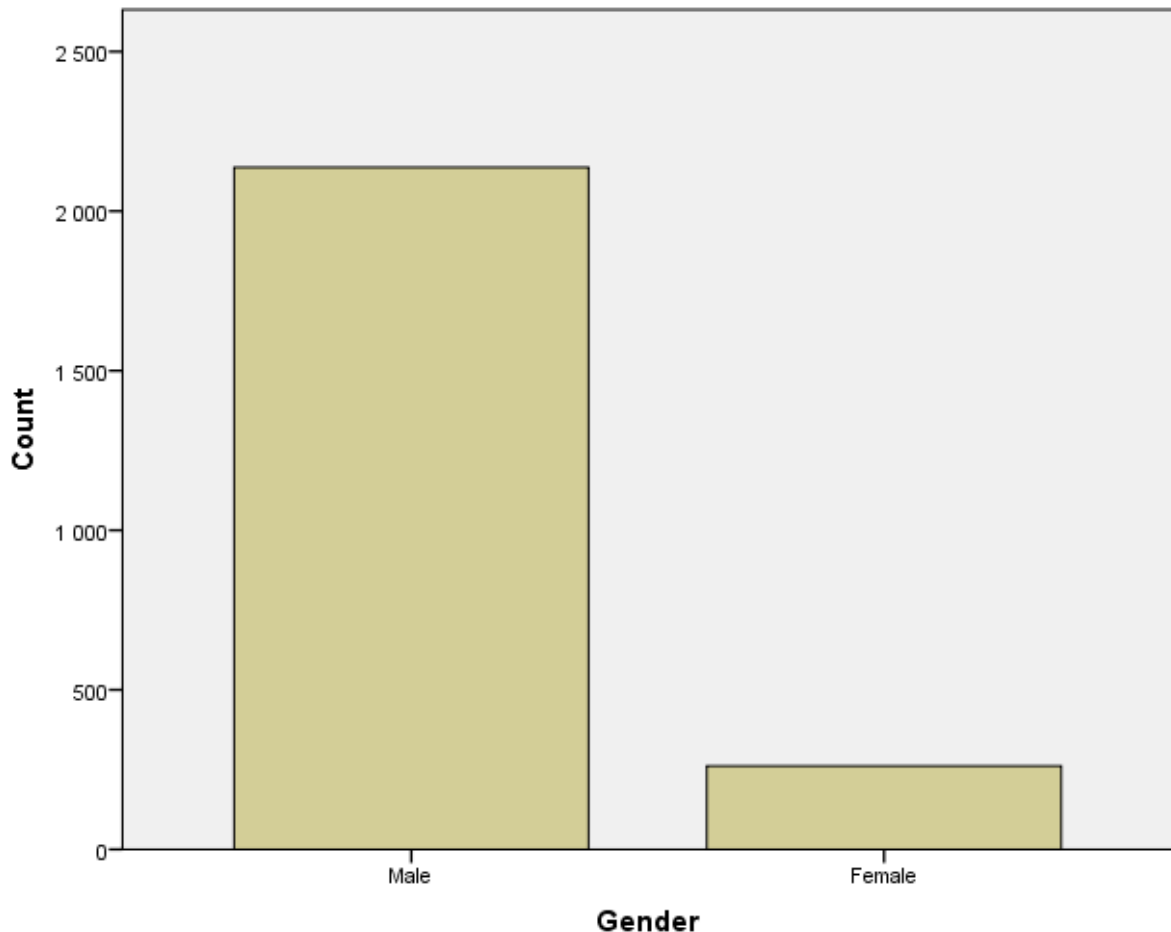
From the table above, we understand that from the 2398 entrepreneurs that they got loans to create their own firms from CNAC mechanism, 89.1% of them are all male with a number of 2137, where 10.9% are female with number of 261 female entrepreneur. Therefore, the number of mal entrepreneurs through CNAC mechanism is more than 8 times of number of female entrepreneurs. From this later, we can judge that men are more able to become entrepreneur, because they are more able to take risks about entrepreneurship. In the Algerian society, we know that the man get the responsibility to save the live condition for his family, therefor it is one from the several reasons that it make the rate of male entrepreneur more than the rates of female entrepreneurs.

According to the rate of female entrepreneur, there is a little rate of women who find themselves able to take risks about entrepreneurship, and they like to use these skills to help the husband in life. According to the laws that CNAC mechanism make them concerning the individual who want to get loan to create his entrepreneur, there are a category of individuals who make the enterprise in the name of his wife or daughter because:

In the first, he is paid employee in a state administration or enterprises so he has not the ability to get loan, and to get the advantages from creating enterprises through CNAC.

In the chart below, I try to clarify the rates of gender through CNAC mechanism:

Figure 31: chart for gender of entrepreneur

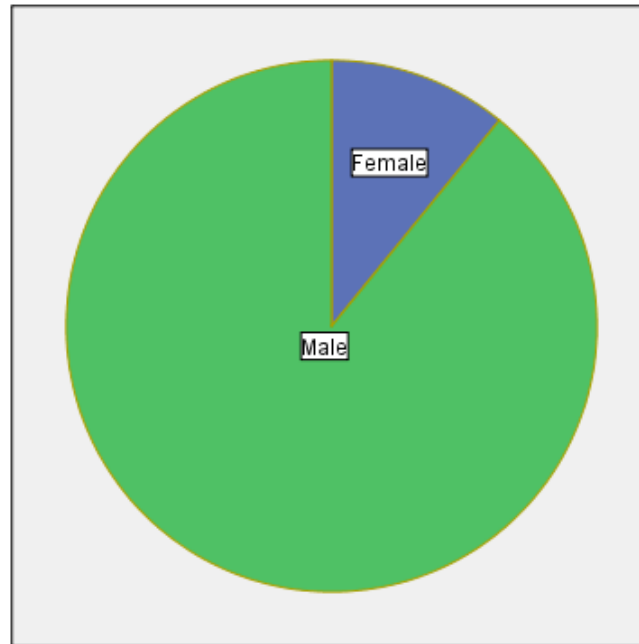


Source: www.cnac.dz

This chart identify the whole difference between male entrepreneurs and female entrepreneurs through CNAC mechanism in the period of 2005 – 2012. This chart illustrate that the men are more able in one hand to take risks and lunch own activities than the women.in the other hand, the propriety of men in our culture to work than women.

Therefore, the circle below show the big different between male and female entrepreneurs according to CNAC mechanism.

Figure 32: circle for gender of entrepreneur



Source: www.cnac.dz

The circle in the figure number 33 shows the rates of both genders on entrepreneurs. Therefore, we find that the big rates is for male with more than 89%, where the rate of female entrepreneurs is 10%. From this point, we confirm the gender effect in being entrepreneur, and we find that the rate of male entrepreneurs are more than female entrepreneurs' rates. In addition, according to the survey with entrepreneurs, many female entrepreneurs are just with physical person where the male manages the enterprises because he get another paid work. Therefore, he had not the ability to launch the enterprise through the mechanism, so he make the enterprise for his wife and he manage the enterprise.

4.2. Segmentation by Bank:

One of the policies that the government make them for the individuals who want to become entrepreneur through all mechanism such as CNAC or ANSEJ or other ones, the bank that is represent the financial sources for the loan. The government make the availability just for the national bank that are:

BNA : Banque National d'Algérie (National Algerian Bank)

BEA : Banque Extérieure D'Algérie (Exterior Algerian Bank)

CPA : Credit Populaire d'Algérie (Algerian Popular Credit)

BADR : Banque de l'Agriculture et du Développement Rural (Bank of Agriculture and Rural Development)

BDL: Banque de Développement Local (Local Development Bank)

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In the first, the CNAC mechanism the mission of finding the bank that will finance his enterprises and judging it for the individual. For that, the major problem that the individual face is the bank. Nowadays, the mechanism discuss the project of the entrepreneur with the bank, and in the committee CSVF (the Committee of Selection, Validation and Financing) that we discussed about it and its role before. Therefore, this committee will choose the bank that will finance the project of the entrepreneur. The table below show the numbers of the enterprises financed by all the banks:

Table 48: segmentation of entrepreneurs through BANK

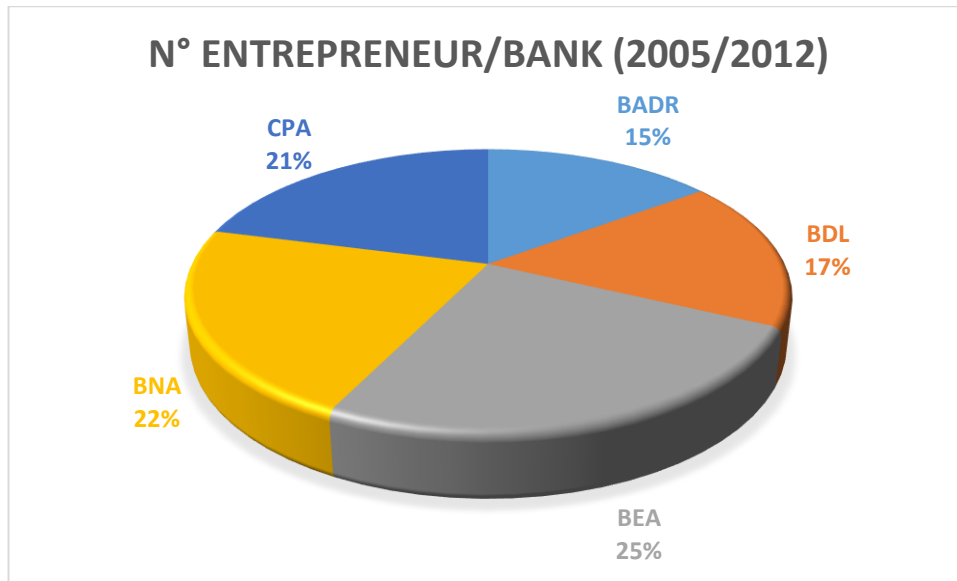
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BADR	356	14,8	14,8	14,8
	BDL	412	17,2	17,2	32,0
	BEA	607	25,3	25,3	57,3
	BNA	520	21,7	21,7	79,0
	CPA	503	21,0	21,0	100,0
	Total	2398	100,0	100,0	

Source: www.cnac.dz

From this table we understand that the bankers try to make similar rates of loan between them to ease the steps of financing the project.

To clarify the table, the chart below present these data in a circle to find the rapprochement in rates.

Figure 33: segmentation of entrepreneurs through BANK



Source: www.cnac.dz

As we seen in this chart, there is not a big difference between the segmentation of the number of enterprises through banks. For that, we understand that the bankers also participate in facilitating the way for the entrepreneurs to get loan. This later presented in the rapprochement of numbers of entrepreneurs financed by the bank.

4.3. Segmentation by the sum of loan:

About the sum of the loan that CNAC allow the entrepreneur to benefice it to start his activity, they make a threshold of 10,000,000 DA. In this point, we can say that the CNAC make a policy that is:

The entrepreneur will not take this sum as cash, to save that he will invest all this money in the project. For that, there is some situation where the individual need cash money to use it in the business activity, so he get money but the entrepreneur cannot use them as he would. For others, who his first and end idea from this mechanism is to get money. They make deal with the supplier to get money without material.

In the table below, I try to divide the number of entrepreneur through the sum of loan:

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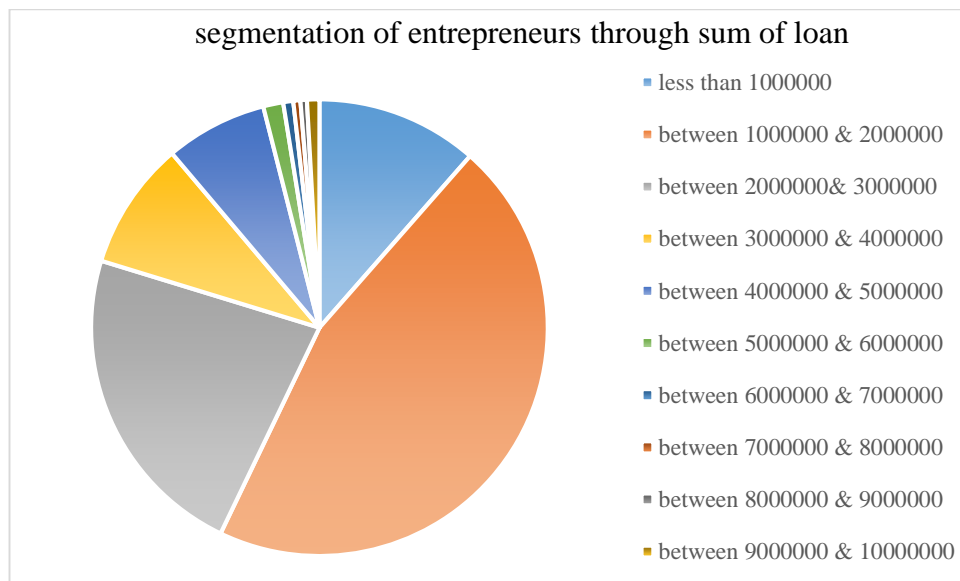
Table 49: segmentation of entrepreneurs through sum of loan

Global Sum in .DA		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 1000000	275	11,5	11,5	11,5
	between 1000000 & 2000000	1095	45,7	45,7	57,1
	between 2000000& 3000000	542	22,6	22,6	79,7
	between 3000000 & 4000000	218	9,1	9,1	88,8
	between 4000000 & 5000000	173	7,2	7,2	96,0
	between 5000000 & 6000000	34	1,4	1,4	97,5
	between 6000000 & 7000000	17	,7	,7	98,2
	between 7000000 & 8000000	12	,5	,5	98,7
	between 8000000 & 9000000	11	,5	,5	99,1
	between 9000000 & 10000000	21	,9	,9	100,0
Total		2398	100,0	100,0	

Source: www.cnac.dz

From the table above, we find that the majority of entrepreneurs get loans of sums between 1.000.000 AD and 2.000.000 AD. The table also shows that the sums of loans are in all sums, i.e. there are some entrepreneurs (275 entrepreneur) who their loans are less than 1.000.000 AD with a rate of 11.5%. In addition, other entrepreneurs who get loan with sums a bit less than w10.000.000 AD with a rate of 0.9 % from the global number of entrepreneurs, that is 21 entrepreneurs. The circle below clarifies the rates:

Figure 34: circle of number of entrepreneurs by sum of loan



Source: www.cnac.dz

4.4. Segmentation through activities:

To achieve a good analysis of data, we try to globalize all activities under six principal sectors of activities that are:

Industry, Agriculture, Services, Transport, Handicraft, and Manufacturing. In the point below, I try to make detail about each category to identify the different activities of each category:

4.4.1. Industry:

Include all of:

1. Manufacturing products in concrete or plaster (said agglomerated)
2. manufacturing traditional clothes in fabric
3. Firm for industrial fishing
4. Clothing industry
5. Fitting, turning, milling and winding
6. manufactory for the transformation of the cork
7. manufactory for the whitening products and caring
8. manufacturing the car for children's and nursery articles
9. manufacturing the decoration articles
10. manufacturing the lace, tulle, guipure , bobbin and embroidery
11. manufacturing chocolate
12. manufacturing habiliment and clothes
13. cold rolling and profiling the steel
14. wiredrawing, drawing and other transformation for steel

15. production of mineral water and different soft drink
16. industrial weaving for the wool and other textile materials
17. manufacturing paper and different articles of paper
18. installation and reparation of mechanic composition
19. Diesel mechanics
20. repairing the boats

4.4.2. Agriculture:

About the agricultural activities that are can joined under this activity, there are:

21. Bovines farming,
22. Grow cereals,
23. Aviculture, aviculturist
24. Collecting and distribution of unpasteurized milk ,
25. hatcher,
26. Gardening,
27. Fattening fowl and industrial accoupage,
28. Collecting milk,
29. Apiculture (beekeeping),
30. Arboriculture (others),
31. Arboriculture,
32. Milk producer,
33. Natural oil milling and refining,
34. Producing frais, frozen or deep-frozen meat of poultry, and rabbit for butcher.
35. Hiring agricultural material and devices.

4.4.3. Transport:

It joins all of the activities related with the transport, distribution that are:

36. Transporting goods in all distances,
37. Hiring chauffeur-driven car or self-drive car,
38. Transport passengers in urban areas,
39. Transport and distribution of all kinds of goods,
40. Transport and distribution of frozen food
41. Transport passengers in rural areas,
42. breakdown and recovery service,
43. enterprise for taxi

4.4.4. Artisans:

It includes all categories of artisans, which are:

44. Carpenter,
45. Traditional dressmaker
46. Traditional jeweler
47. Iron craftsman
48. Confectioner
49. Coffee merchant
50. Enterprises for handicraft jeweler,
51. Enterprises for general carpenter,
52. Making traditional pastries,
53. Baker,
54. Hairdresser for women,
55. Woodcarver
56. Electrician building
57. Repairing the upholstery of vehicles
58. Engine driver
59. Photographer,
60. Weaver,
61. Traditional baker,
62. Traditional pastries

4.4.5. Construction:

About the construction sector, it includes all activities related with building and installation.

63. Enterprises of all genres of building,
64. Hiring equipment of building and public works,
65. Enterprises for electrical works ,
66. Enterprises for industrial building paint,
67. Enterprises for waterproof quality of building and plumbing,
68. Enterprises for wood carpenter, aluminum and other raw materials,
69. Industrial enterprises for building carpenter,
70. Builder,
71. Enterprises for installation of electric wiring and telephone system and centrals.
72. Wrought iron and metallic carpenter,
73. Realizing swimming pools,
74. Enterprises for public sectors and hydraulics.
75. Enterprises of firefighting and protection from robbery

76. Enterprises of studies and realization of all categories of building and hydraulics.
77. Enterprises of studies and realization of the electric and gas works
78. Enterprises of installation of air-conditioning and refrigeration system,
79. Enterprises of artisanal building and plasterworks

4.4.6. Services:

Services as their definition, it includes all activities out of the previous one.

80. Fast-food
81. Industrial baker,
82. Doctor,
83. Pastries ,
84. Other types of bakers,
85. dry-cleaning and whitening
86. Driving studies (auto-ecole)
87. Office of engineering and technical studies ,
88. Hairstyle and beauty care,
89. Collection and waste treatment,
90. Gym room,
91. Private ambulance,
92. Station of cleaning, and fabricating the meat
93. Chicken and fat liver,
94. Printer in clothes,
95. Cheese shop, ice creams and sorbet
96. shower,
97. Enterprise for filmmaking,
98. Cleaning contractor, maintenance and disinfection,
99. Enterprises for secretary and administrative assistance,
100. Enterprises for the studies of prevention program and streamlining the environment.
101. balancing and the wheel alignment
102. Private establishment for vocational training,
103. Hammam and sauna
104. Different location
105. Restaurant
106. Mobile restoration
107. Pay phone
108. Bodywork and painting vehicles,

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109. Veterinary.

In the table below, I try to segment the number of entrepreneurs by the sector of activity:

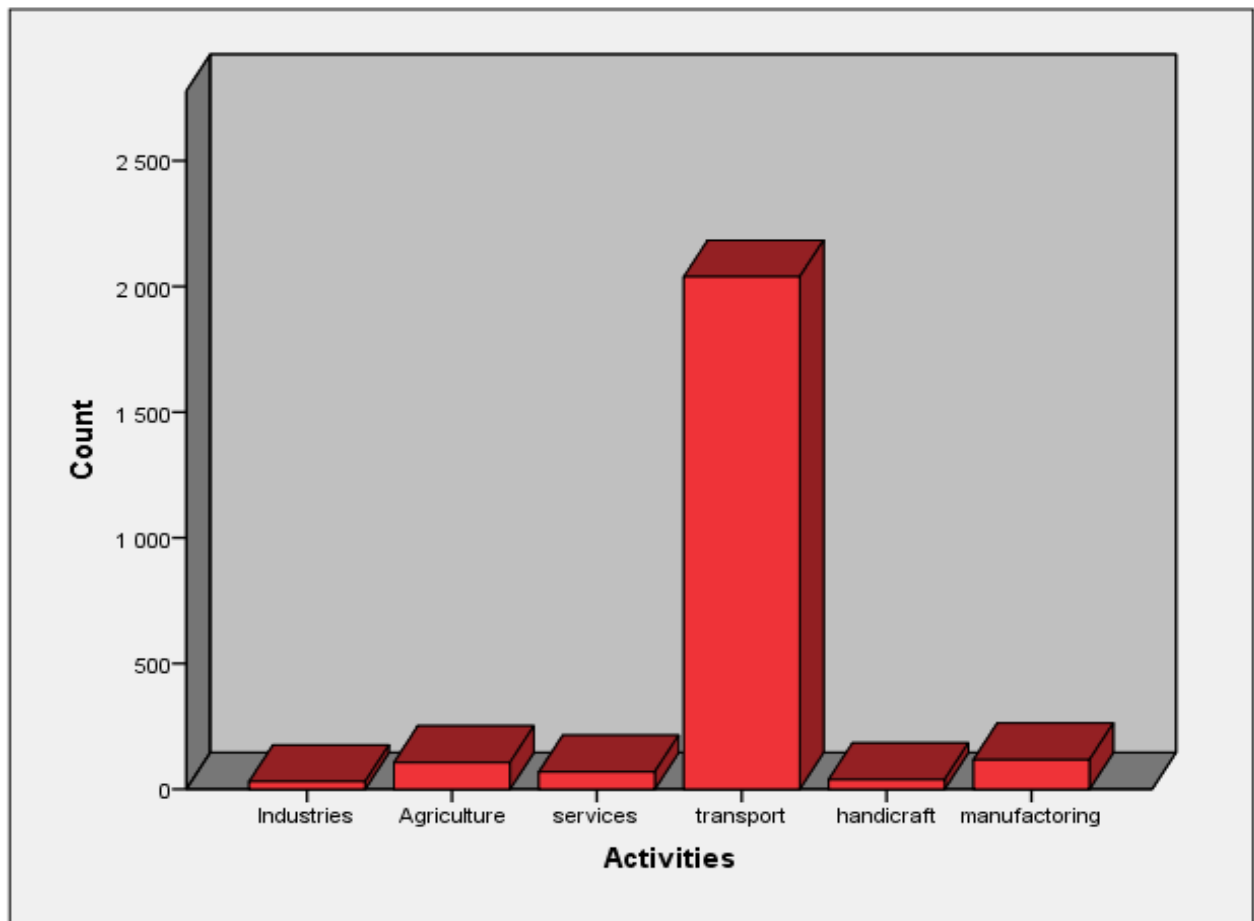
Table 50: segmentation of entrepreneurs through activities

	Frequency	Percent	Valid Percent	Cumulative Percent
Industries	30	1,3	1,3	1,3
Agriculture	106	4,4	4,4	5,7
services	69	2,9	2,9	8,5
Valid transport	2038	85,0	85,0	93,5
handicraft	38	1,6	1,6	95,1
manufacturing	117	4,9	4,9	100,0
Total	2398	100,0	100,0	

Source: www.cnac.dz

From the table above, we understand that 85% of the entrepreneurs in the period of are in the sector of transport with a number of 2038 entrepreneurs according to its facility because they did not need workers or material just vehicle to transport. In the other hand, the less rates of entrepreneurs is in the sector of industry with a rate of 1.3% and Handicraft with a rate of 1.6%. About these two later rates, the industry need more competencies, skills and experiences to manage the industry, and for the handicraft they though that there was things from the past, and it is necessary to look for new activities that will bring profit easy and quickly.

The chart below defines a view of the segmentation of entrepreneurs by sector:

Figure 35: number of entrepreneurs per activity

Source: www.cnac.dz

4.5. Segmentation through number employees:

The most interesting point through this study is to find the contribution of Entrepreneurship through CNAC in absorbing the unemployment in Tlemcen. In addition, the aim of this mechanism through the status (CNAC: Caisse National D'assurance Chômage) the National Fund of unemployment assuring is to enhance the unemployed people that are in the age of 30 to 50 and they were fired from enterprises that faced bankruptcy, this fund encourage them to create their own enterprises. Therefore, in the first step the CNAC fund took the unemployed people from the unemployment and it enhance them to being job creator rather than job seekers. In the table below, I try to keep number of employment as it to understand the contribution in the absorption of unemployment, because hire employee i.e. he was unemployed in the past, but now he is employed.

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Table 51: number of enterprises through number of employees

	Frequency	Percent	Valid Percent	Cumulative Percent
0	1	,0	,0	,0
1	907	37,8	37,8	37,9
2	1163	48,5	48,5	86,4
3	185	7,7	7,7	94,1
4	87	3,6	3,6	97,7
5	37	1,5	1,5	99,2
Valid 6	6	,3	,3	99,5
7	4	,2	,2	99,7
9	3	,1	,1	99,8
10	3	,1	,1	99,9
12	1	,0	,0	100,0
24	1	,0	,0	100,0
Total	2398	100,0	100,0	

Source: www.cnac.dz

From the table above, we found that 48.5% of entrepreneurs hire two employees, with a number of 1163 entrepreneurs, i.e. they create about 2300 free job. Second rates of 37.8% with 907 free job. The global entrepreneurs through CNAC create about 4500 employees

4.6. Segmentation through year of creation:

In the table below, I try to segment the number entrepreneurs through year of creation. Because, to enhance people to create their enterprises through the CNAC mechanism, the government make different lows to facilitate getting credits. As we seen in table below, the number of entrepreneurs through CNAC in Tlemcen in 2005 was 41 entrepreneur. In 2006, we found that the number of entrepreneurs grow with a rate of 109%, i.e. number of entrepreneurs in 2006 is more than in 2005. So, the CNAC mechanism starting to achieve its goals that are enhance fired people to create their own enterprises through experiences that they got from previous works.

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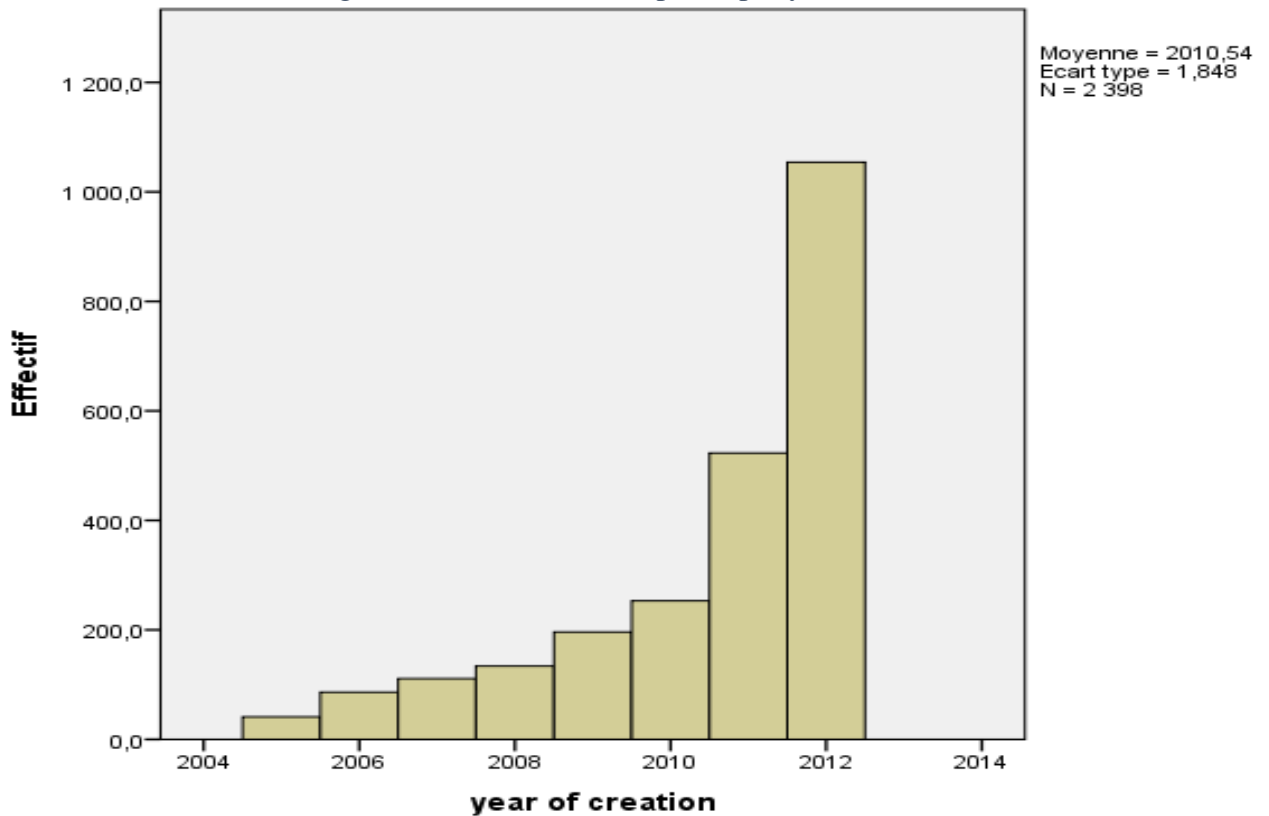
Table 52: segmentation of enterprises through year of creation

	Effectives	Percentages %	Percentages valid %	Percentages cumulé
2005	41	1,7	1,7	1,7
2006	86	3,6	3,6	5,3
2007	111	4,6	4,6	9,9
2008	134	5,6	5,6	15,5
Valide 2009	196	8,2	8,2	23,7
2010	253	10,6	10,6	34,2
2011	523	21,8	21,8	56,0
2012	1054	44,0	44,0	100,0
Total	2398	100,0	100,0	

Source: www.cnac.dz

As it shown in the chart below, the high number of enterprises created according to CNAC mechanism are characterized in the latest years according to different advantages and facilities given from the authorities, in addition to the external factors that it push individuals to create their own enterprises rather than looking for paid job.

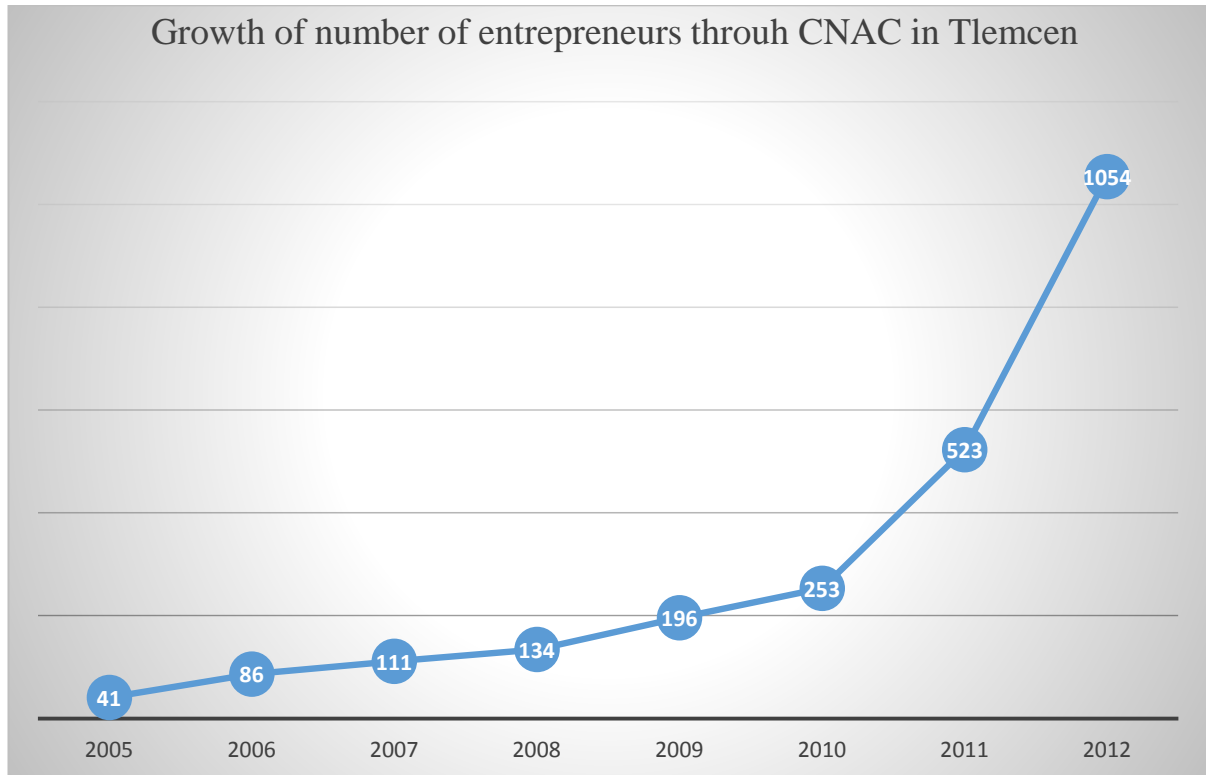
Figure 36: number of enterprises per year



Source: www.cnac.dz

The chart above mention the big difference in the number of enterprises created by through CNAC mechanism of Tlemcen. We find that the numbers of created enterprises in latest years is more important than the number in the first years, according to the important of this mechanism, and its goals in reducing unemployment and enhancing individual to create their own enterprises from one hand, and from the other hand they found that individual are more able to create their own enterprise than looking for paid work.

Figure 37: Growth of entrepreneurs' number through CNAC in Tlemcen,
In the period 2005-2012



Source: www.cnac.dz

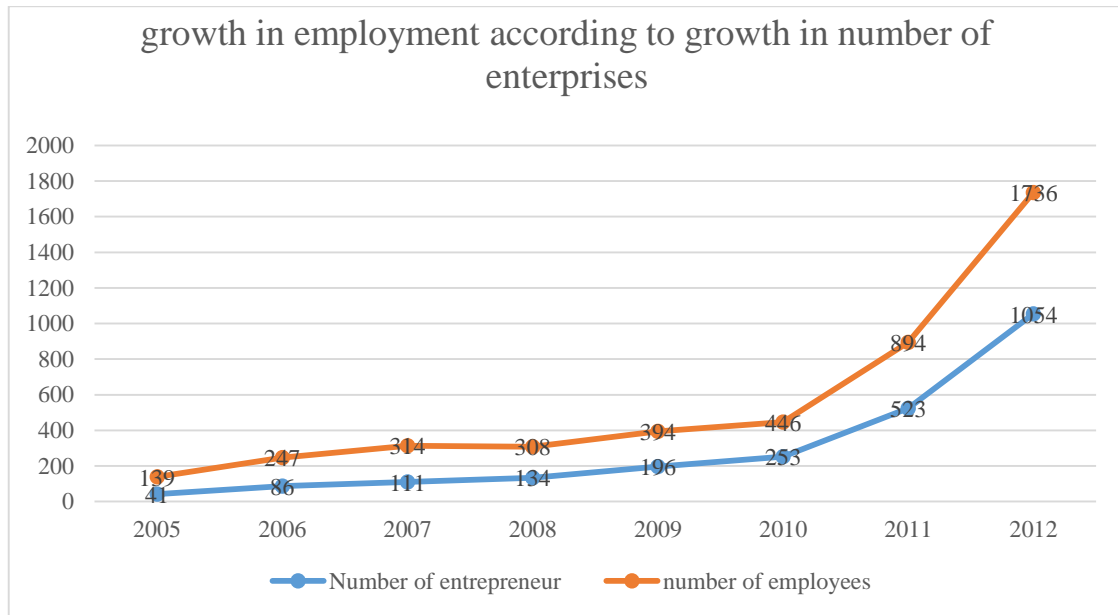
About the growth of the number of enterprises created by CNAC mechanism in Tlemcen, the chart above present that after one year of the creation of the mechanism and its foggy image, there were 41 enterprises created in 2005. After that, and according to the facilities and formation given by the authorities to individuals to create their own enterprises and to hire more employees, there were 45 other enterprises created. After, and through the facilities given to the new enterprises from the government, the number of these enterprises grows quickly until it will be more than 2390 enterprises in the end of 2012. These numbers represent from one hand the huge efforts of the CNAC authorities in enhancing individual to create their own enterprises, and from the other hand the individuals abilities to take risks and create their own enterprises.

For the employment created by the enterprises created through CNAC mechanism, the chart below give a small idea about this growth:

4.7. Employment through CNAC entrepreneurs in Tlemcen:

According to the important role of entrepreneurship in creating employment over the in the developed and developing countries, we will see the volume of employment created through CNAC entrepreneurs in this period (2005-2012). However, first we will show the growth of the employment created per year in figure 39.

Figure 38: growth of employment according to growth in number of CNAC entrepreneurs



Source: www.cnac.dz

According to the small size of enterprises created by CNAC mechanism and less technology used in production process and big threats in the first steps of creating and launching an enterprise, the majority of enterprises create from one to three free jobs. Therefore, we find that the different between created enterprises and created employment is not big. In addition, the number of employment created flow the growth in number of enterprises created with a little difference especially in the latest years where the big rate of activity created is services and transport that it create just one employees with the entrepreneur. For example, there were 41 enterprises created in 2005 with 139 employment, that is mean an average of less than four workers per enterprise (according to (Edward L. Glaeser,2007), this is an entrepreneur because he employ less than four workers²²⁸). This average was changed from year to year according to the activities of enterprises created per year.

²²⁸ Edward L. Glaeser, *Entrepreneurship and the City*.

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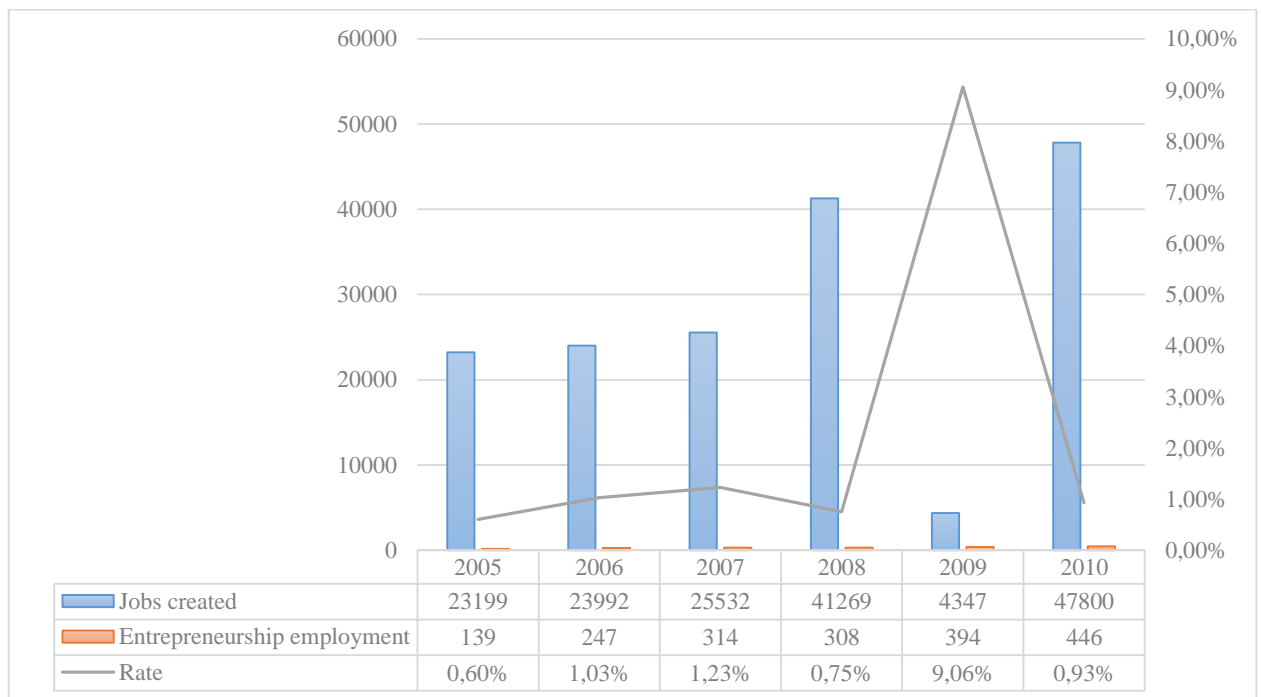
Table 53: Rate of CNAC employment in the global employment of Tlemcen in the period 2005-2010

years	2005	2006	2007	2008	2009	2010
Jobs created	23199	23992	25532	41269	4347	47800
Entrepreneurship employment	139	247	314	308	394	446
Rate	0,60%	1,03%	1,23%	0,75%	9,06%	0,93%

Source: www.cnac.dz

also contribute but with a small rate in creating employment. In 2005, there were 23199 new job created in Tlemcen, where the new jobs created through CNAC were 139 job in 2005, i.e. a rate of less than 1 % (0.60%). In 2006, we see that there were also 23992 new job created where the jobs through CNAC were 247 with 1.03% from in the global employment created. The figure below clarify the data above:

Figure 39: the contribution on entrepreneurship in creating employment



Source: www.cnac.dz

4.8. Segmentation gender of entrepreneurs with years of creation:

The growth of number of entrepreneurs face important rates especially in the latest years according to the appearance of new activities, in addition to the growth of number of graduate people who want to create its own enterprises. This growth touch both genders of entrepreneurs, but with different rates (this show the importance of the gender). The table

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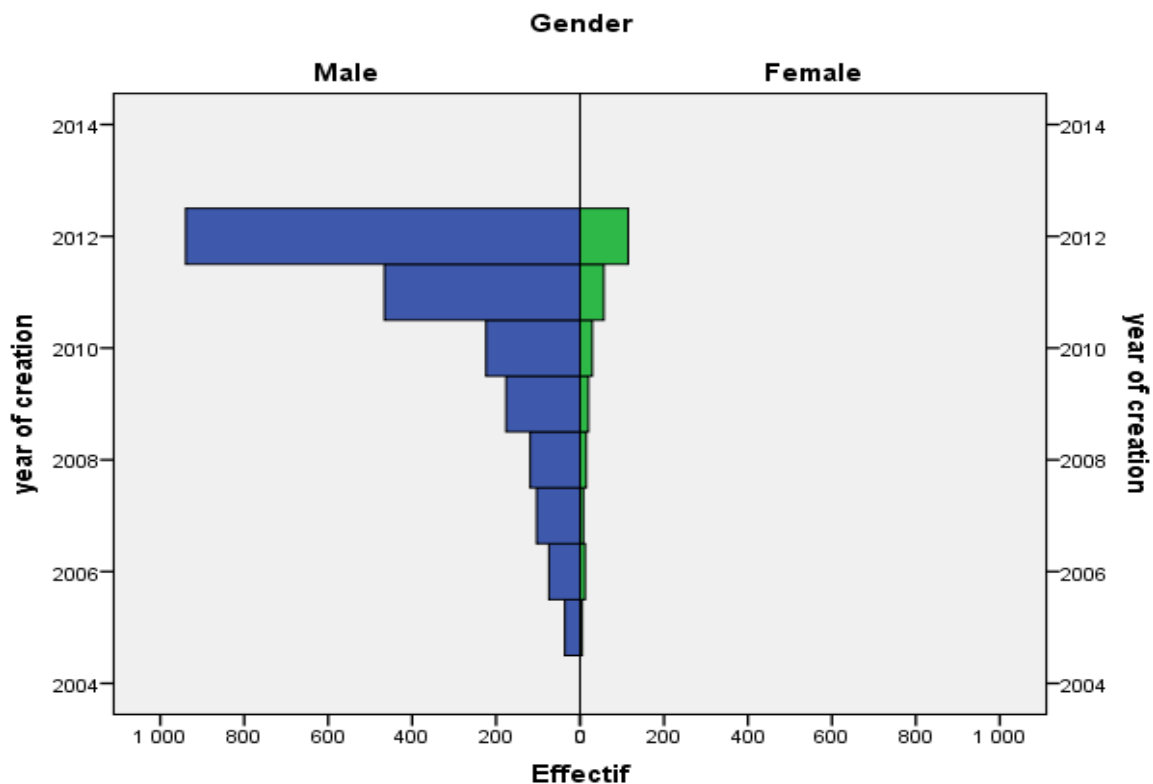
number 52 show the development of entrepreneurship through CNAC in Tlemcen from 2005 until 2012:

Table 54: Gender * year of creation Cross tabulation

		year of creation							Total	
		2005	2006	2007	2008	2009	2010	2011		2012
Gender	Male	36	74	103	119	176	224	466	939	2137
	Female	5	12	8	15	20	29	57	115	261
Total		41	86	111	134	196	253	523	1054	2398

Source: www.cnac.dz

Figure 40: segmentation of entrepreneur through gender and year of creation



Source: www.cnac.dz

In the chart above in the figure 40, we demonstrate the development of number of entrepreneurs through CNAC mechanism by gender. As in the chart, the number of male entrepreneurs are higher than female entrepreneurs in all periods. In 2005, the number of female entrepreneurs was five in comparing with male entrepreneurs (36 entrepreneur). According to the different facilities, in addition to the good image reflected in the mind of entrepreneurs, they encourage also the others

In addition to the chart above, the chart under present also the growth of the entrepreneurs from 2005 to 2012. We have seen that the growth touch the both gender but with different rates.

4.9. Segment gender of entrepreneurs through Sector of activity:

For more understanding the contribution of the CNAC mechanism in the creation of enterprises, the table below illustrates the distribution of individuals by gender between different activities.

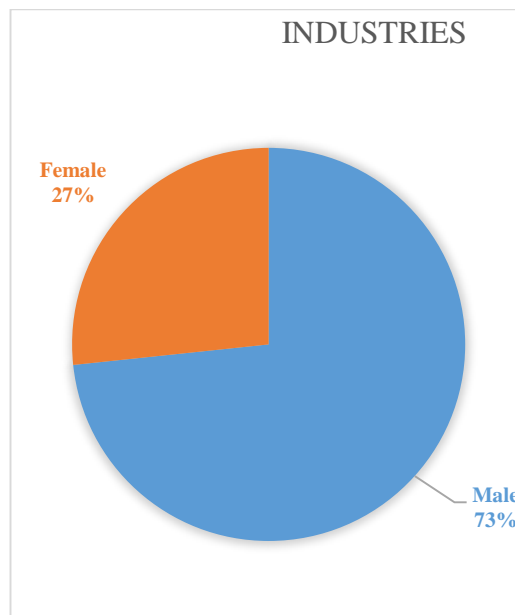
Table 55: Gender, Activities Cross tabulation

Effective	Activities						Total
	Industries	Agriculture	Services	Transport	Handicraft	Manufacturing	
Gender Male	22	81	37	1859	24	114	2137
Female	8	25	32	179	14	3	261
Total	30	106	69	2038	38	117	2398

Source: www.cnac.dz

According to the table above, we understand that both gender male and female launch all activities, i.e. there is no special activities for male and other for women. In this point, we see also that women inter to the activities that were for male in some years before. In addition, we can understand also that in many cases the husbands launch activities in the name of their wives. In the circles below, I tried to illustrate the rates of male and female entrepreneurs in all activities:

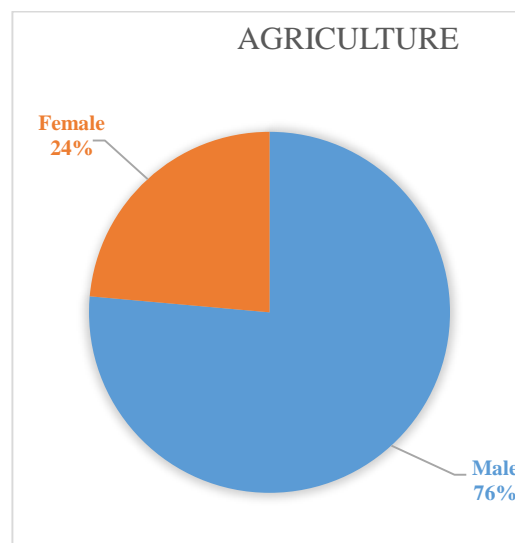
Figure 41: Rates of male and female entrepreneurs in industry activities



Source: www.cnac.dz

From the circle above, we find that 73% of entrepreneurs who engaged in industries are male entrepreneurs, where there are just 27% of female entrepreneurs.

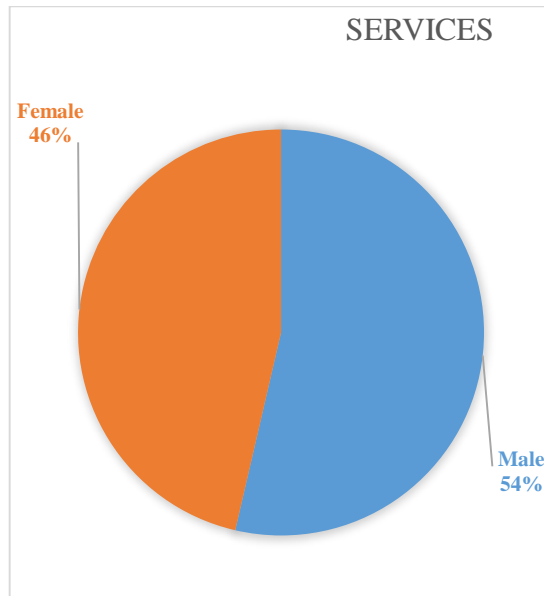
Figure 42: Rates of male and female entrepreneurs in agriculture activities



Source: www.cnac.dz

According to the difficulty of the agriculture activity, we find that from the 106 entrepreneurs who launch agriculture activity, 76% of these entrepreneurs are in male gender.

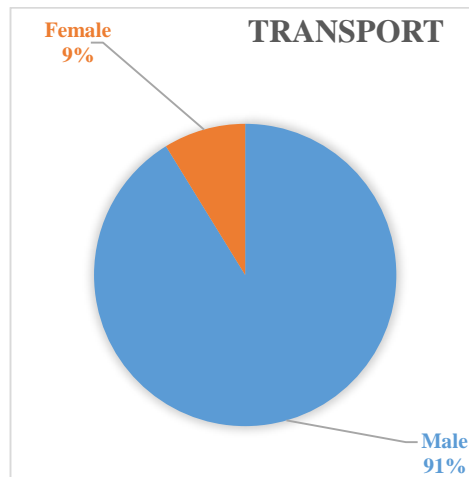
Figure 43: Rates of male and female entrepreneurs in services activities



Source: www.cnac.dz

The services activity is 2.9% of all entrepreneurs created by the CNAC mechanism. The 46% of this 2.9% is female entrepreneurs. Where the male entrepreneurs present 54% with a number of 37 male entrepreneurs and 32 female entrepreneurs.

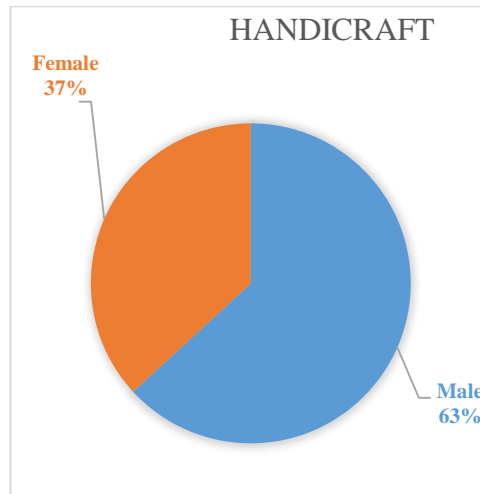
Figure 44: Rates of male and female entrepreneurs in transport



Source: www.cnac.dz

Transport activities are the most activity that it presents more than 85% from all activities created by the CNAC mechanism. In this 85%, the male entrepreneurs present 91% of the whole entrepreneurs who launch transport activity according to the easiest folder to get loan (driving certificate). About the female entrepreneurs, they represent 9% of the entrepreneurs. In these 9%, we find some individuals who launch the activity in the name of his wife. In addition, some women want to launch the activities that it was just for male persons.

Figure 45: Rates of male and female entrepreneurs in handicraft



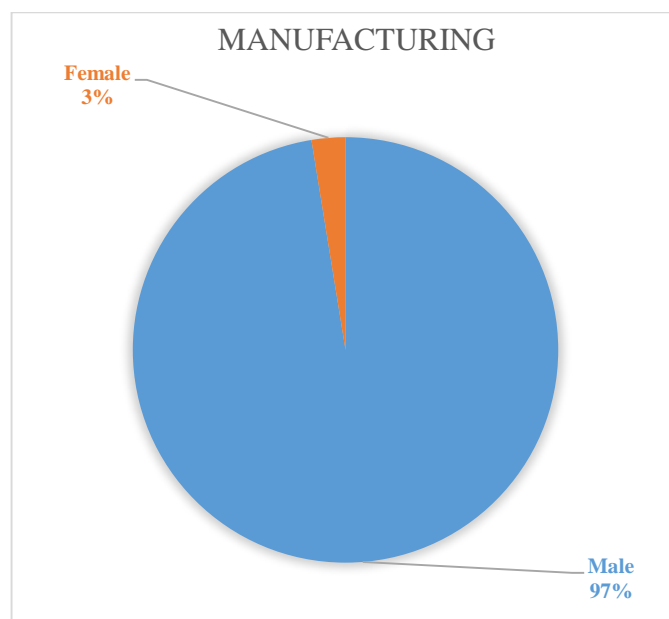
Source: www.cnac.dz

About the handicraft that it represent the smallest rate of entrepreneurs after the industries with 1.6%. The handicrafts is one of the important activities that the Algerian government creates these mechanism to enhance them and encouraging the individuals to exploit their skills in these activities. According to this importance, we find that just few individuals launch these activities. From these persons, 63 % of them are male individuals where the other 37% are female entrepreneurs.

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According to the importance of manufacturing in the latest years, we find that both male and female entrepreneurs invest in this activity but with different rates. The manufacturing activity presents 4.9% of all activities created by the CNAC mechanism. In spite of the difficulty of this activity, we find that 3% of the entrepreneurs are female entrepreneurs where the others are male entrepreneurs. The figure below shows the rate of genders in the manufacturing activities:

Figure 46: Rates of male and female entrepreneurs in manufacturing



Source: www.cnac.dz

4.10. Cross tabulation between gender and the sum of loan

Table 56: Global Sum * Gender Cross tabulation

The Sum of loan in DA		Gender		Total
		Male	Female	
Global Sum	less than 1000000	249	26	275
	between 1000000 & 2000000	1025	70	1095
	between 2000000 & 3000000	475	67	542
	between 3000000 & 4000000	171	47	218
	between 4000000 & 5000000	137	36	173
	between 5000000 & 6000000	29	5	34
	between 6000000 & 7000000	12	5	17
	between 7000000 & 8000000	9	3	12
	between 8000000 & 9000000	11	0	11
	between 9000000 & 10000000	19	2	21
Total		2137	261	2398

Source: www.cnac.dz

About this latest table, we try to segment the sum of loan by gender of individuals. From the smallest sum of loan (less than 1000000.da) to the biggest sum (between 9000000.da and 10000000.da), we find both male and female individuals gets loan. Nevertheless, according the smallest rate of female entrepreneurs rather than male entrepreneurs, we understand that there is no factor relates the gender with the sum of loan just it is necessary for the individual to justify the sums of it want to get by pro forma invoice.

4.11. Segmentation of employees according to gender and year of employment:

Both of male and female entrepreneurs need employees to launch their activities, therefore both of them will participate in create employment and in the end reduce unemployment. However, there is w difference between the participation in employment as in engaging to launch activity that it shown in the table below:

Table 57: Segmentation of employees according to gender and year of employment

Years	Male entrepreneurs	Number of employees per mal Entrepreneurs	Female entrepreneurs	Number of employees by female Entrepreneurs	Total of employees
2005	36	124	5	15	139
2006	74	205	12	42	247
2007	103	289	8	25	314
2008	119	262	15	46	308
2009	176	349	20	45	394
2010	224	383	29	63	446
2011	466	787	57	107	894
2012	939	1509	115	227	1736
Total	2137	3908	261	570	4478
Average	1.82 employees per Male entrepreneur		2.18 employees per female entrepreneur		

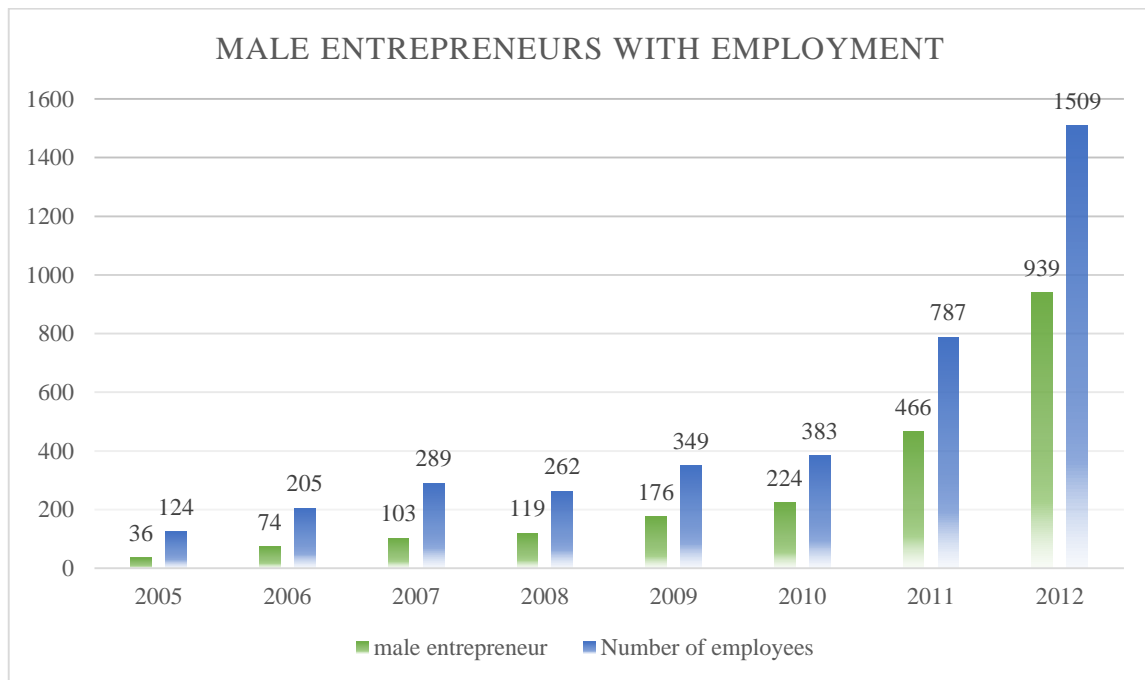
Source: www.cnac.dz

From the table above, we understand that both of the male and female entrepreneurs contribute in creating free jobs but with different rates. According to the big difference between male and female entrepreneurs through CNAC mechanism, the number of employment created is always different. For example, in 2005: 36 entrepreneurs create 124 new employments with an average of four employees per entrepreneur. Where for female entrepreneurs, there were five female entrepreneurs creating 15 new employments with the average of three employees per entrepreneur. In the average of number of employment created by entrepreneurs, we find that female entrepreneurs create more employees rather than male entrepreneur, because each female entrepreneur creates 2.18 employees and the male entrepreneur creates 1.81 employees. Therefore, the contribution of female entrepreneurs in creating employment is bigger than the contribution of male entrepreneurs. For that, we can suggest that the contribution of female entrepreneurs is more than male’s contribution in curbing unemployment.

4.11.1. Male entrepreneurs and employment:

As we said in the theoretical party, the gender plays an important role in the entrepreneurship, and in the end also in creating employment. As we seen in the figure 47, there is an important growth of male entrepreneurs. This growth is related with the high ability of individual in the engagement of own boss and creating enterprises. From 36 male entrepreneurs in 2005 to 103 entrepreneurs in 2007, it is so important growth in a departure of a new mechanism. Therefore, this reflect that the individual are motivated to be self-employed just the problem of money. About employment, the employment always grown with the growth of number of male entrepreneurs. Therefore, we can say that male entrepreneurs have a good contribution in creating employment, and in the end reducing unemployment. The figure 47 clarifies the growth of male entrepreneurs and employment created through them in the period 2005-2012:

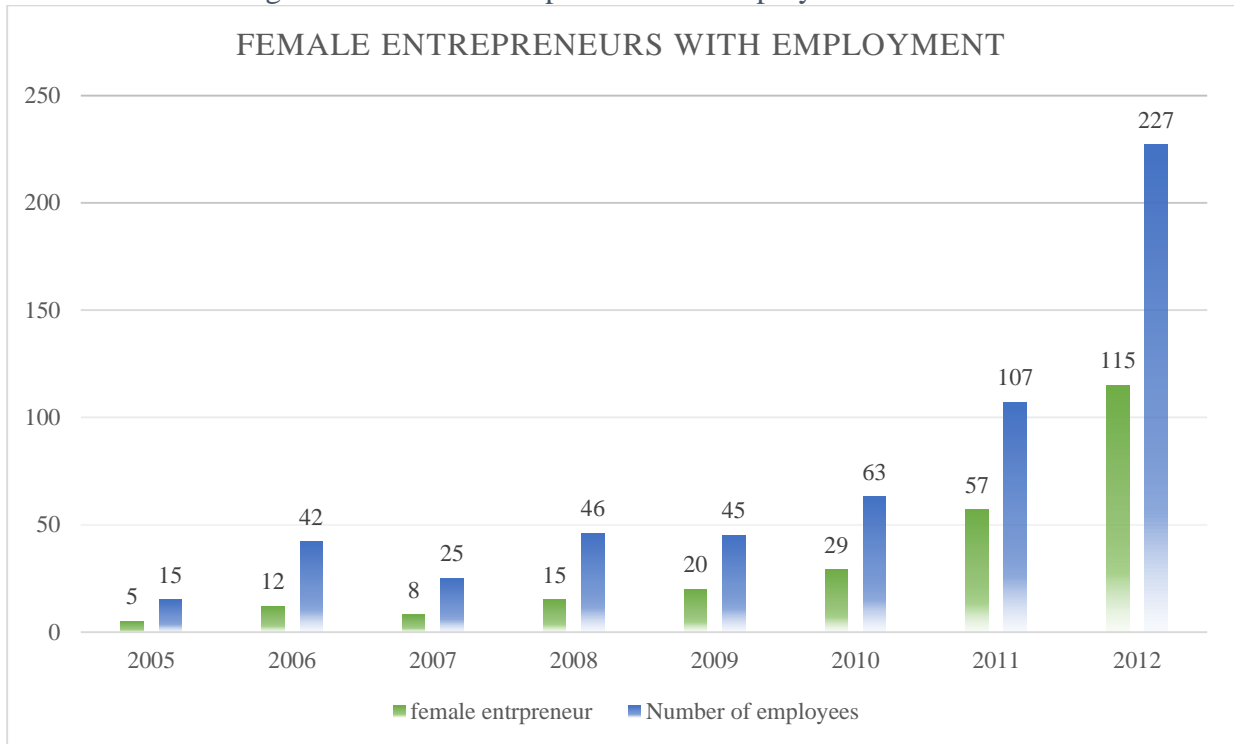
Figure 47: male entrepreneurs and employment created



Source: www.cnac.dz

4.11.2. Female entrepreneurs and employment:

Figure 48: Female entrepreneurs and employment created



Source: www.cnac.dz

In addition to the role of male entrepreneurs in creating employment, the female entrepreneurs are also contributing in creating employment through CNAC mechanism. Therefore, and from the chart in figure 48, we find that the even the less growth of female entrepreneurship in comparing with the male entrepreneurship, but it gets its rule in creating employment. Therefore, in 2005 five female entrepreneurs create 15 new employments with three employments per an entrepreneur. Therefore, it is a good departure for the new entrant in the domain of entrepreneurship. With the growth of number of female entrepreneurs, there is also the growth in the number of employment created but with different rate according to the sector of activity. For that, we find that in 2006 there were 12 female entrepreneurs created 42 new employments with a rate of 3 to 4 employees per entrepreneurs. Without caring about the number of entrepreneurs, the female entrepreneur more creators to the employment rather than man, but in the big difference between numbers of entrepreneurs of male than female, we see that the contribution of male is bigger than the contribution of women. Nevertheless, if we focus in the contribution of the unit (male or female), the female entrepreneur is better than male entrepreneur in creating employment, and in the end curbing unemployment.

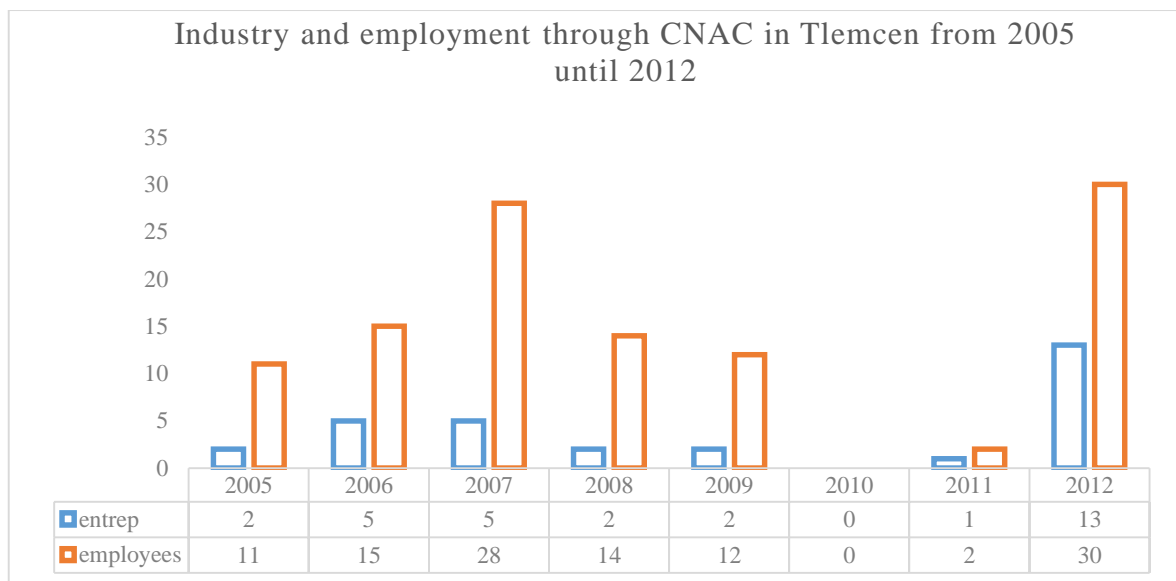
4.12. Segmentation of number of employees according the activity of entrepreneur and year of creation:

From the data gathered, we find that the number of employment created was different from an entrepreneur to another. Therefore, we will make segmentation of number of employees according to the sector of activity to know each activity create more employment.

4.12.1. Industry and employment:

Industry is one of the most important bases that it started with to build the economy according its big participation in the growth. In addition, the different financial mechanisms also pushes the individuals to create activities in the sector of industry according to its big participation in creating employment. The chart below presents the number of both of employment and entrepreneurs created in the sector of industry in the period 2005-2012 in Tlemcen:

Figure 49: Industry and employment through CNAC in Tlemcen, 2012



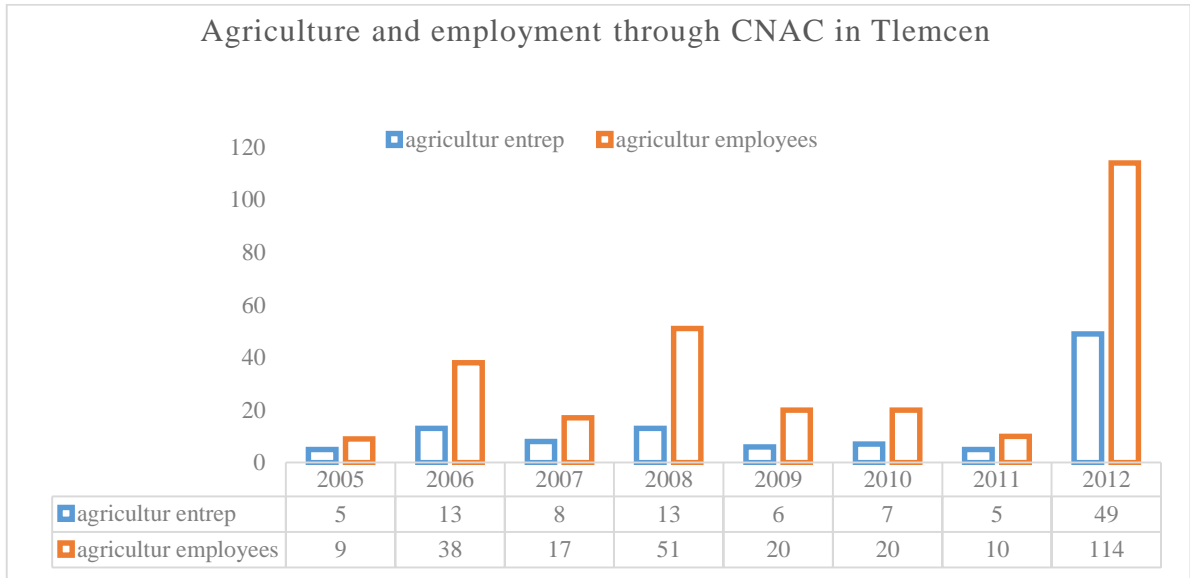
Source: www.cnac.dz

In 2005, number of enterprises created by CNAC in the sector of industry was two enterprises. These two enterprises create 11 employments with an average of five employees per each enterprise. Year after, according to knowledge spillover of the importance of this mechanism, there were five new enterprises created with three employees for each enterprises. In 2007, also there were five more enterprises created. In 2012, according to different new facilities added by the authorities to enhance people to create their own enterprises, there were 13 new enterprises with an average of two to three employees per enterprises.

As a conclusion of this data, we confirm that in addition to the hardest sector, it is the 1.25% of all sectors in in CNAC mechanism in Tlemcen in the period 2005-2012. For the employment, it contribute to create 2.50% of all employment created by the enterprises through CNAC.

4.12.2. Agriculture and employment:

Figure 50: Agriculture and employment through CNAC in Tlemcen, 2012

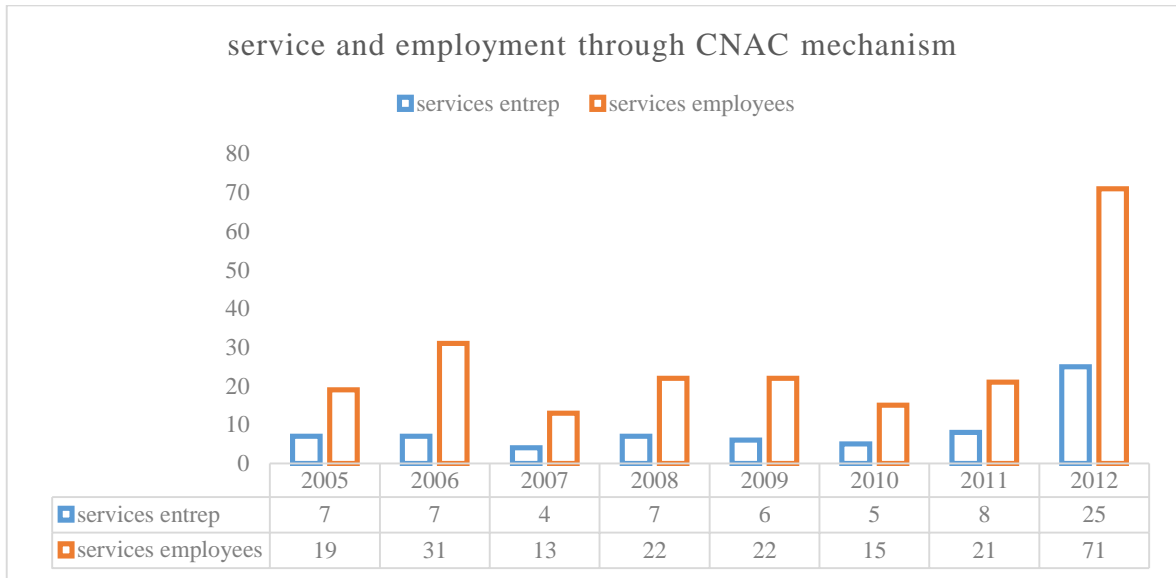


Source: www.cnac.dz

According to the importance of agriculture in our region, the CNAC mechanism also enhances individuals to create enterprises in it. Form the figure 52, we understand that it also find different growth from 2005 until 2012, in addition to its contribution in creating employment. Because, as usually, the agriculture need more employees than materials. Therefore, in 2009 there were five enterprises created that it creates nine free jobs. The growth of the agriculture find different changes according to its difficulty, but with new enterprises there is always new free jobs created, the matter that it makes them enhance this sector with special advantages (reduction in the personal part) especially in the special places. As a global result, the rate of enterprises created in agricultural sector is 4.42% of the whole enterprises created through CNAC mechanism. About the employment, 6.23% of employment created characterized in this sector.

4.12.3. Service and employment:

Figure 51: services and employment through CNAC in Tlemcen, 2012

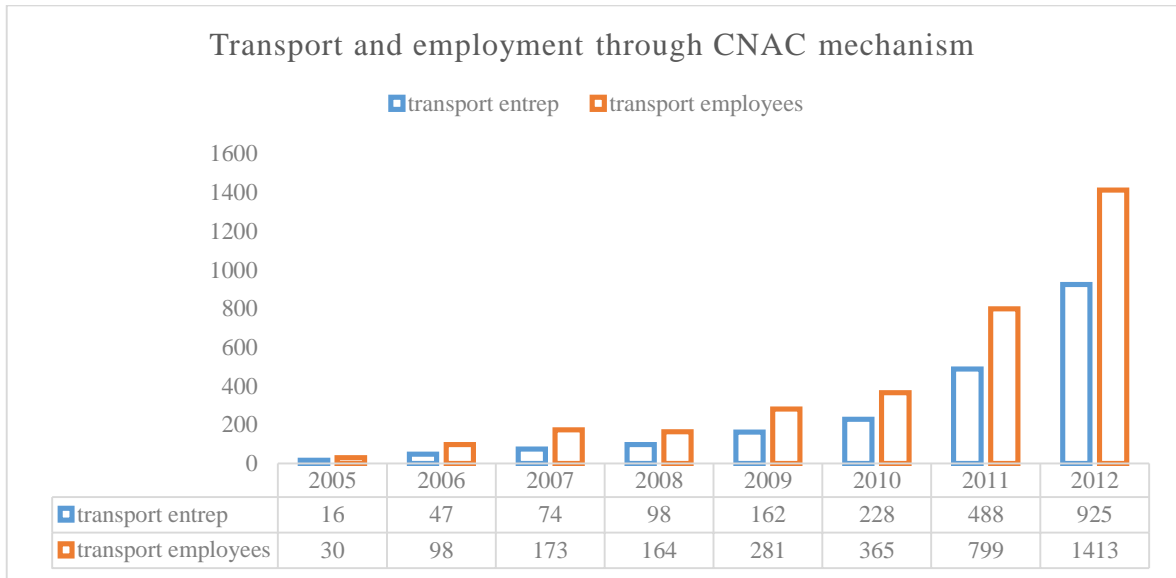


Source: www.cnac.dz

Services sector is the most stable sector in the number of enterprises created the previous years, not in the number of employees. According to the chart 54, there were seven enterprises in 2005 with 19 new employees, 7 new enterprises in 2006 with 31 employees, 7 new enterprises with 22 employees. From this latest data, we can understand also that sometimes, in the same sector with the same number of enterprises, there is different employment created. Therefore, there are other factors that it affects the creation of employment. However, with the new facilities in 2012, there were 25 new enterprises in the sector of services with 71 new job created. The rate of entrepreneurs in this sector is 2.88% of the whole entrepreneurs with 4.78% of employment from the whole employment created through CNAC entrepreneurs.

4.12.4. Transport and employment:

Figure 52: Transport and employment through CNAC in Tlemcen, 2012

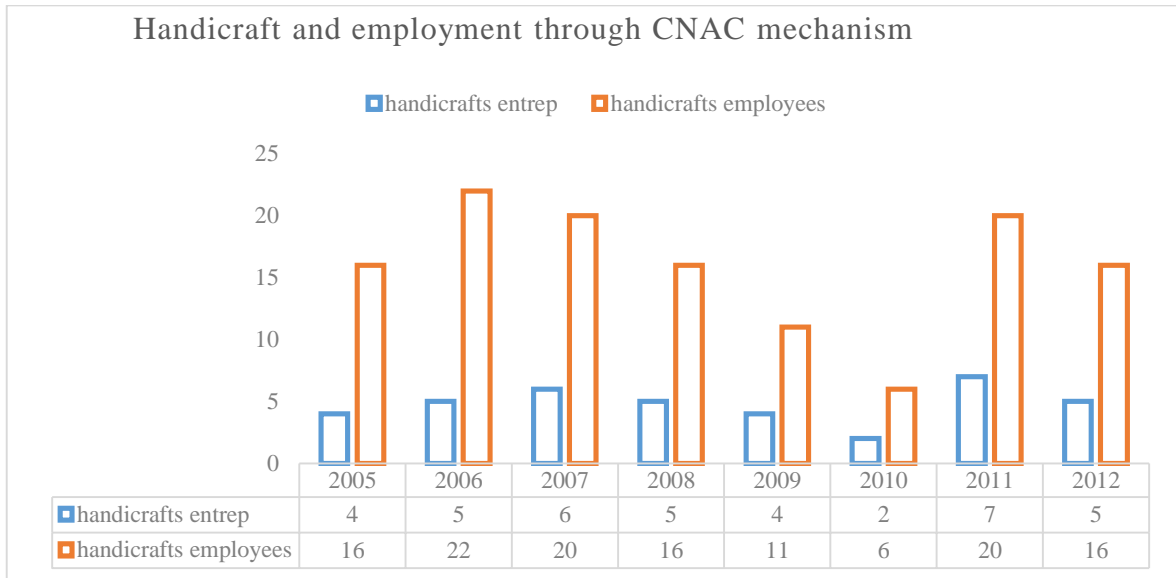


Source: www.cnac.dz

The most sectors that it attracts the individual to be entrepreneur through it is transport. Why, for a simple reason that it do not need a special diploma just driving license, and get in a car. In 2005, there were 16 entrepreneurs in transport with 30 employees. The sector of transport is the only sector that it grow directly until 2012 where the number of entrepreneurs in transport was 925 entrepreneurs, with w decrease in the other sector. Therefore, the CNAC authorities blocked this sector for a period to enhance the other sectors because they found individual with different skills, go to transport according to it way to get car, and not being entrepreneurs for future goals. In the end, transport is 84.99% of the whole entrepreneurs with a rate of employment 74.21% from whole employment through CNAC mechanism.

4.12.5. Handicraft and employment:

Figure 53: Handicraft and employment through CNAC in Tlemcen, 2012

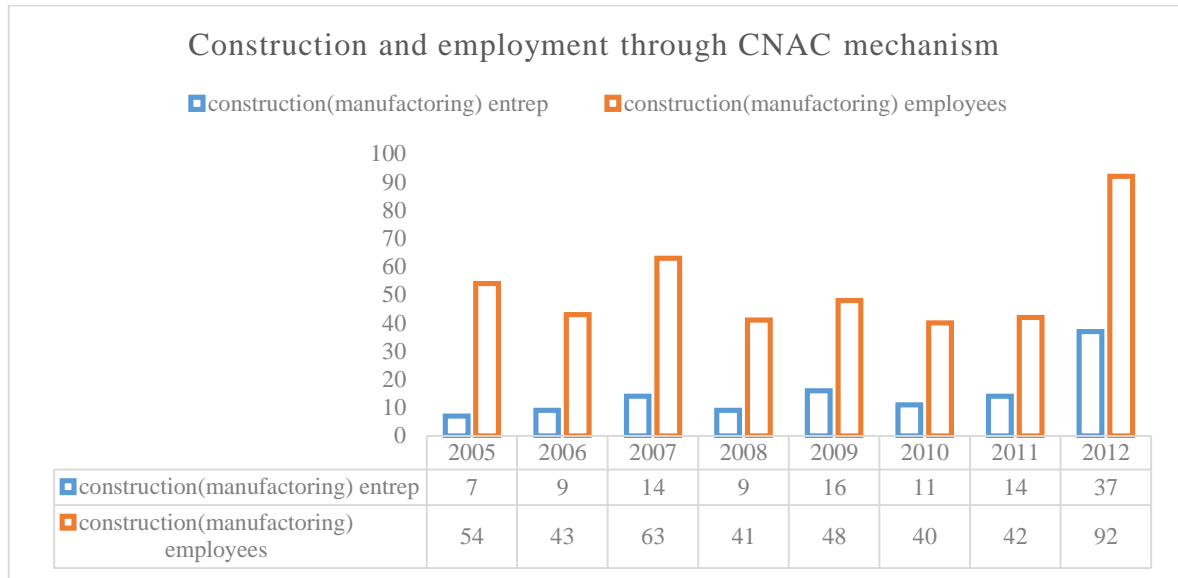


Source: www.cnac.dz

In addition to the agricultural sector, the handicraft sector also from the sectors that it do not demand diploma just hand skills. There just few entrepreneurs who want to launch this handicraft as an entrepreneurial activity. In addition, with or without facilities, there is no change in the number of handicraft entrepreneurs. However, it is from the activities that it creates employment. There for, from the whole number of enterprises that is 2398 enterprises created from 2005 until 2012, 38 enterprises are in the handicraft sector. These 38 handicraft entrepreneurs create about 127 employees that it represents 2.84% of the whole employment created by the enterprises through CNAC mechanism in the period 2005-2012.

4.12.6. Construction and employment:

Figure 54: Construction and employment through CNAC in Tlemcen, 2012



Source: www.cnac.dz

Construction was from the most important sectors launched from the Algerian government, because it is the important sector to build, and use high number of employees. The CNAC mechanism also focuses on it by allowing individuals to launch activities. Therefore, from the first year of launching activities, there were seven enterprises that it creates free jobs for 54 employees. The most important in this sector is its big contribution in creating employment. There for, this sector takes part of 4.88% of all sectors, and it contributes with a rate of 9.45% in employment.

5. Model:

From the different studies turned around the interactions between unemployment and entrepreneurship, we find many studies use the model (VAR) VECTOR AUTOREGRESSION MODEL. The researchers use this model to find the kinds of interactions between entrepreneurship and unemployment. Moreover, how it can contribute in the reduction of unemployment rate?

According to many econometric studies, the entrepreneurship get different relation with unemployment (as we mention in the theoretical view), so we will try to look for these relation in Tlemcen by using tow variable En (number of entrepreneurs through CNAC mechanism), Un (rate of unemployment in Tlemcen)

From these studies, we summarize some latest studies to build our research according to their ways:

Table 58: some latest studies between entrepreneurship and unemployment

Authors	Year	Title
Stephan F. Gohmann, Jose M. Fernandez	2013	The authors used panel VAR study to estimate the relation between proprietorship and unemployment in US. There is an effect just in the side of unemployment to proprietorship ²²⁹ .
SALEH Ghavidel, G. Farjadi A. Mohammadpour	2011	The authors used VAR and SEM, as a result they find the entrepreneurial effect between entrepreneurship and unemployment ²³⁰ .
Jose M. Plehn-Dujowich	2011	The authors find negative relationship between entrepreneurship and unemployment factor by using PANEL VAR model ²³¹ .
João Ricardo Faria Juan Carlos Cuestas Estefanía Mourelle	2010	The nonlinear study show that the business creation affect rapidly the decrease in unemployment, instead the opposite (decrease in business creation affect unemployment but in long time). ²³²
Rita Remeikiene Grazina Startiene	2009	The authors in this study find Schumpeter effect and refugee effect between entrepreneurship and unemployment in Lithuania ²³³ .
Antonio Aníbal Golpe André van Stel Emilio Congregado	2008	The authors estimate VAR model in Spain to look for the relation between self-employment and unemployment. They find entrepreneurial effect and the refugee effect between the two variables ²³⁴ .
A. Roy Thurik Martin A. Carree André van Stel David B. Audretsch	2008	The authors estimate by VAR the relation between entrepreneurship and unemployment in 23 country from the OECD countries. They find the entrepreneurial effects and refugee effect. ²³⁵

For that, we will try in this party to use the VAR model to find if the entrepreneurship through CNAC mechanism achieves their goals or not.

²²⁹ Stephan F. Gohmann and Jose M. Fernandez, "Proprietorship and Unemployment in the United States."

²³⁰ SALEH GHAVIDEL, G.FARJADI, and A. MOHAMMADPOUR, "THE RELATIONSHIP BETWEEN ENTREPRENEURSHIP AND UNEMPLOYMENT IN DEVELOPED AND DEVELOPING COUNTRIES," in *International Conference On Applied Economics*, 2011, 187–192, <http://kastoria.teikoz.gr/icoae2/wordpress/wp-content/uploads/2011/10/019.pdf>.

²³¹ Jose M. Plehn-Dujowich, "The Dynamic Relationship Between Entrepreneurship, Unemployment, and Growth: Evidence from U.S. Industries," 2011, Plehn Analytical Economic Solutions, LLC Willow Grove, PA 19090, www.sba.gov/sites/default/files/rs394tot.pdf.

²³² João Ricardo Faria, Juan Carlos Cuestas, and Estefanía Mourelle, "Entrepreneurship and Unemployment: A Nonlinear Bidirectional Causality?," *Economic Modelling* 27, no. 5 (September 2010): 1282–1291, doi:10.1016/j.econmod.2010.01.022.

²³³ Rita Remeikiene and Grazina Startiene, "Does the Interaction between Entrepreneurship and Unemployment Exist?," *ECONOMICS & MANAGEMENT*, 2009, 14 edition.

²³⁴ Antonio Anibal Golpe and André van Stel, "Self-Employment and Unemployment in Spanish Regions in the Period 1979–2001."

²³⁵ A. Roy Thurik et al., "Does Self-Employment Reduce Unemployment?"

Definition:

According to Gujarati (2004):”VAR methodology superficially resembles simultaneous-equation modeling in that we consider several endogenous variables together. Nevertheless, each endogenous variable is explained by its lagged, or past, values and the lagged values of all other endogenous variables in the model; usually, there are no exogenous variables in the model”²³⁶.

For our data, we get time series data from 2005 to 2012. For the variables that we get:

EN: number of enterprises created according to CNAC mechanism from 2005 to 2012

UN: Rate of unemployment in Tlemcen from 2005 until 2011.

For the model, we will summarize it as below:

$$Y_t = A_0 + A_1Y_{t-1} + \dots + A_pY_{t-p} + \varepsilon_t$$

Where :

Y_t : [En Un],

A_0 : Coefficient of Y,

t : time, $t = \{0 \dots T\}$,

ε_t : Error Coefficient,

P : number of lags

5.1. Stationarity test:

In the first step of vector autoregression model, it is necessary to look the stationarity of our series before launching the estimation. To make stationarity test i.e. looking if our series are stationary or not, we will make two tests ADF (Augmented Dickey Fuller) and PP (Philips Perron) test.

5.1.1. Augmented dickey fuller test ADF:

Before the ADF model, Dickey-Fuller created tests that allow us to verify the stationarity of a temporal series. These models based in the three models below:

Model 1: without constant nor deterministic trend: $X_t = \varphi_1X_{t-1} + \varepsilon_t$

Model 2: with constant but without deterministic trend: $X_t = \varphi_1X_{t-1} + \beta + \varepsilon_t$

Model 3: with constant and deterministic trend: $X_t = \varphi_1X_{t-1} + bt + c + \varepsilon_t$

Where: $X_t, t = \{123 \dots \dots \dots T\}$, and $\varepsilon \sim BB(0; \sigma^2\varepsilon)$

Dickey fuller develop the first model according to the problems in the possibility of correlation of ε_t , the new model called Augmented Dickey fuller stated on the estimation with

²³⁶ Damodar N Gujarati, *Basic Econometrics*, fourth edition (Bruxelles: De Boeck, 2004), 840.

the OLS (ordinary least square) (model 1,2 and 3). The most useful from these three models is the third model because it contain both trend and intercept.

Model1: $\Delta x_t = \rho x_{t-1} - \sum_{j=2}^p \varphi \Delta x_{t-j-1} + \varepsilon_t$, None (no intercept)

Model2: $\Delta x_t = \rho x_{t-1} - \sum_{j=2}^p \varphi \Delta x_{t-j-1} + c + \varepsilon_t$, intercept

Model3: $\Delta x_t = \rho x_{t-1} - \sum_{j=2}^p \varphi \Delta x_{t-j-1} + c + bt + \varepsilon_t$, trend and intercept

With $\varepsilon_t \rightarrow$ independent and identically distributed variables

Hypothesis:

Null hypothesis H0: variable is not stationary or got a unit root,

Alternative H1: the variable are stationary

5.1.2. Phillips and Perron test:

Phillips and Perron test (1988) is also based on the Dickey Fuller; it is created to taking in the account the Heteroscedasticity errors.it is based on four test:

- OLS estimation four the three model of DF in addition to calculate the associated statistics,

- Estimate the variance in the short term: $\hat{\sigma}^2 = \frac{1}{n} \sum_{t=1}^n e_t^2$

- Estimate the corrective factor $s_t^2 = \frac{1}{n} \sum_{t=1}^n e_t^2 + 2 \sum_{i=1}^l (1 - \frac{i}{l+1}) \frac{1}{n} \sum_{t=i+1}^n e_t e_{t-i}$, with:
lag

$$l \approx 4(n/100)^{2/9}, n: \text{number of observation}$$

- Calculate the PP statistics : $t_{\hat{\vartheta}_1}^* = \sqrt{k} \times \frac{(\hat{\vartheta}_1 - 1)}{\hat{\sigma}_{\hat{\vartheta}_1}} + \frac{n(k-1)\hat{\sigma}_{\hat{\vartheta}_1}}{\sqrt{k}}$, with $k = \frac{\hat{\sigma}^2}{s_t^2}$,

5.2. Cointegration test:

This test allow us to identify the veritable relation between to variables by looking for the vector of cointegration. The important condition for the cointegration is: the time series are integrated in the same order, in general 1st order. Nevertheless, in the case of the series are not integrated in the same order, the process stopped in this step and there is no cointegration between the series.

5.2.1. Lag length selection

Determining the lag length is from the most important steps in the VAR. The most useful criterion to determine the lag are Akaike (AIC) and Schwarz (SC).

$$AIC(p) = \ln[\det|\Sigma_e|] + \frac{2k^2p}{n}$$

$$SC(p) = \ln[\det|\Sigma_e|] + \frac{k^2p \ln(n)}{n}$$

Where:

K: number of variables, n: number of observation, p: number of lag, Σ_e : matrices of variance covariance for the model residue.

5.2.2. Johansen cointegration test²³⁷:

Johansen test (1991, 1995) start from Vector autoregression (VAR) of order p given by:

$$Y_t = A_0 + A_1Y_{t-1} + \dots + A_pY_{t-p} + \varepsilon_t$$

Where:

Y_t : Is an n vector of variables that are intergrated of order one,

ε_t : Vector of innovation.

This VAR can be written as:

$$\Delta y_t = \mu + \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-1} + \varepsilon_t$$

Where: $\Pi = \sum_{i=1}^p A_i - I$

And

$$\Gamma_i = -\sum_{j=i+1}^p A_j$$

5.2.3. Granger causality test²³⁸:

Granger in 1969 proposes the concepts of causality and erogeneity, this test show if the variable are causal. That is mean if we get to exogenous variable Y_{1t} and Y_{2t} , the test allow us to find if Y_{1t} is cause Y_{2t} or not, and the feedback effect, that is means if Y_{1t} causes Y_{2t} .

If we estimate the two equations:

$$Y_{1t} = \gamma_1 + \alpha_{11}y_{1t-1} + \alpha_{12}y_{1t-2} + \dots + \alpha_{1p}y_{1t-p} + \beta_{11}y_{2t-1} + \beta_{12}y_{2t-2} + \dots + \beta_{1p}y_{2t-p} + u_{1t}$$

$$Y_{2t} = \gamma_2 + \alpha_{21}y_{1t-1} + \alpha_{22}y_{1t-2} + \dots + \alpha_{2p}y_{1t-p} + \beta_{21}y_{2t-1} + \beta_{22}y_{2t-2} + \dots + \beta_{2p}y_{2t-p} + u_{2t}$$

The test consists to make these hypotheses:

Y_{2t} do not cause Y_{1t} if the following null hypothesis accepted:

$$\beta_{11} = \beta_{12} = \beta_{13} = \dots = \beta_{1p} = 0$$

Y_{1t} do not cause Y_{2t} if the following null hypothesis accepted:

$$\alpha_{21} = \alpha_{22} = \alpha_{23} = \dots = \alpha_{2p} = 0$$

²³⁷ Erik Hjalmarsson and Pär Österholm, *Testing for Cointegration Using the Johansen Methodology When Variables Are Near-Integrated*, WP/07/141 vols. (International Monetary Fund, 2007), www.imf.org.

²³⁸ Helene Hamisultane, "Modele a Correction d'erreur et application," 2003.

We test the two hypothesis by using fisher test. So:

$$H_0: \beta_{11} = \beta_{12} = \beta_{13} \dots = \beta_{1p} = 0 \text{ et } y_{1t} = y_1 + \alpha_{11}y_{1t-1} + \alpha_{12}y_{1t-2} + \dots + \alpha_{1p}y_{1t-p} + v_{1t}$$

H_0 : If there is one coefficient $\beta \neq 0$, y_{2t} causes y_{1t}

Or:

$$H_0: \alpha_{21} = \alpha_{22} = \alpha_{23} \dots = \alpha_{2p} = 0 \text{ et } y_{2t} = y_2 + \beta_{21}y_{2t-1} + \beta_{22}y_{2t-2} + \dots + \beta_{2p}y_{2t-p} + v_{2t}$$

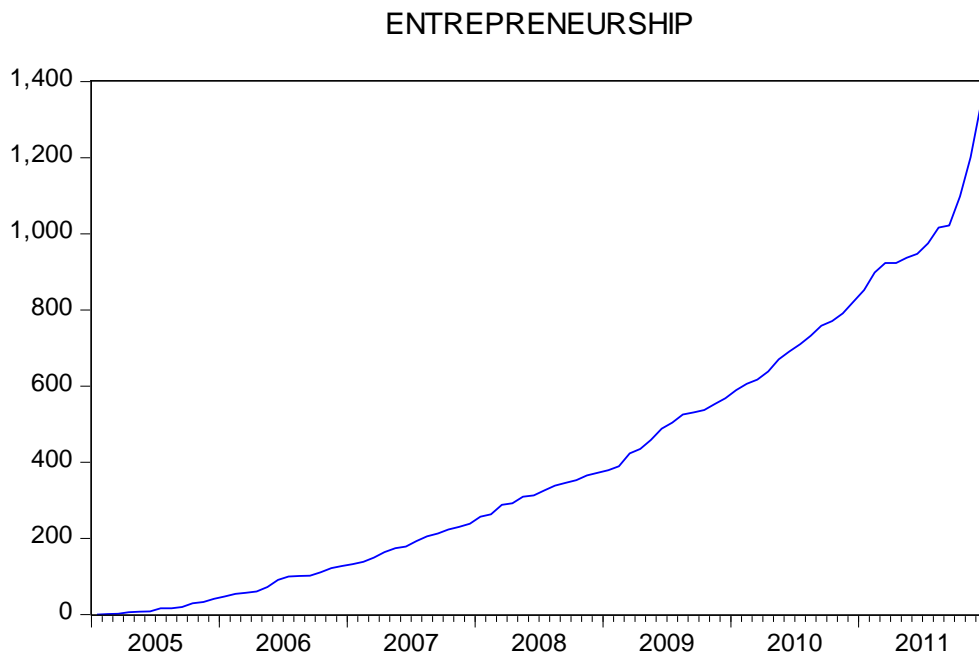
H_0 : If there is one coefficient $\alpha \neq 0$, y_{1t} causes y_{2t}

if situation where we will accept the both hypothesis where Y_{1t} causes Y_{2t} and Y_{2t} causes Y_{1t} , there will be a retroactive or cyclical effect.

5.2.4. Vector Autoregression Estimates

6. Data analysis and estimation:

Figure 55: Graphs of entrepreneurship series



Source: edited by the student through EVIEWS 8.0

The graph in figure 55 presents the entrepreneurship through CNAC mechanism from 2005 until 2011. From this graph, we found that there is a growth in entrepreneurship according to the different facilities given to the individual.

6.1. Analysis of correlograms:

From the simplest method to test the stationarity of series, there is the correlogram. If the probability stay in the 0, the series is not stationary and we will change the level (level, 1st difference or 2nd difference), but if it takes different values. In this time, our series are stationary in that level.

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Table 59: Correlogram of entrepreneurship at level

Date: 11/25/13 Time: 15:05 Sample: 2005M01 2011M12 Included observations: 84						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. *****	. *****	1	0.942	0.942	77.271	0.000
. *****	. .	2	0.894	0.059	147.75	0.000
. *****	. .	3	0.854	0.045	212.76	0.000
. *****	. .	4	0.818	0.037	273.25	0.000
. *****	. .	5	0.781	-0.022	329.07	0.000
. *****	. .	6	0.746	0.001	380.60	0.000
. *****	. .	7	0.712	-0.005	428.14	0.000
. *****	. .	8	0.677	-0.025	471.67	0.000
. *****	. .	9	0.641	-0.024	511.25	0.000
. *****	. .	10	0.603	-0.041	546.78	0.000
. *****	. .	11	0.566	-0.028	578.43	0.000
. *****	. .	12	0.530	-0.004	606.65	0.000
. *****	. .	13	0.496	-0.011	631.72	0.000
. *****	. .	14	0.464	-0.007	653.90	0.000
. *****	. .	15	0.431	-0.016	673.36	0.000
. *****	. .	16	0.398	-0.026	690.19	0.000
. *****	. .	17	0.366	-0.011	704.63	0.000
. ***	. .	18	0.335	-0.011	716.93	0.000
. ***	. .	19	0.305	-0.017	727.25	0.000
. ***	. .	20	0.274	-0.018	735.74	0.000
. ***	. .	21	0.245	-0.010	742.65	0.000
. ***	. .	22	0.218	-0.013	748.16	0.000
. **	. .	23	0.190	-0.020	752.42	0.000
. **	. .	24	0.162	-0.018	755.57	0.000
. **	. .	25	0.135	-0.015	757.80	0.000
. **	. .	26	0.108	-0.018	759.26	0.000
. **	. .	27	0.083	-0.016	760.13	0.000
. .	. .	28	0.057	-0.023	760.55	0.000
. .	. .	29	0.031	-0.029	760.68	0.000
. .	. .	30	0.005	-0.021	760.68	0.000
. .	. .	31	-0.020	-0.020	760.73	0.000
. .	. .	32	-0.043	-0.007	760.99	0.000
. .	. .	33	-0.065	-0.010	761.59	0.000
. * .	. .	34	-0.087	-0.019	762.67	0.000
. * .	. .	35	-0.106	0.002	764.31	0.000
. * .	. .	36	-0.124	-0.015	766.63	0.000

The P value in the correlogram in table 59 are less than 5% , therefore we are obliged to reject null hypothesis that is the variables are stationary and accept the alternative hypothesis (the variables are not stationary), so the entrepreneurship is not stationary at level.

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Table 60: correlogram of entrepreneurship at first difference

Date: 11/25/13 Time: 15:09						
Sample: 2005M01 2011M12						
Included observations: 83						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. ****	. ****	1	0.555	0.555	26.532	0.000
. **	. .	2	0.321	0.018	35.487	0.000
. *	. * .	3	0.125	-0.087	36.856	0.000
. *	. *	4	0.175	0.196	39.599	0.000
. *	. .	5	0.130	-0.033	41.133	0.000
. .	. * .	6	0.049	-0.091	41.350	0.000
. .	. *	7	0.040	0.089	41.502	0.000
. *	. *	8	0.100	0.087	42.443	0.000
. *	. * .	9	0.200	0.117	46.265	0.000
. **	. * .	10	0.247	0.112	52.141	0.000
. *	. * .	11	0.157	-0.080	54.566	0.000
. *	. .	12	0.123	0.039	56.077	0.000
. *	. .	13	0.091	0.007	56.913	0.000
. *	. .	14	0.098	-0.013	57.903	0.000
. *	. * .	15	0.120	0.104	59.385	0.000
. .	. .	16	0.071	-0.042	59.909	0.000
. *	. .	17	0.091	0.046	60.792	0.000
. *	. * .	18	0.129	0.087	62.607	0.000
. *	. * .	19	0.116	-0.092	64.104	0.000
. .	. .	20	0.059	-0.042	64.492	0.000
. .	. .	21	0.041	0.062	64.687	0.000
. .	. .	22	0.043	-0.042	64.904	0.000
. .	. .	23	0.050	0.017	65.201	0.000
. .	. .	24	0.008	-0.039	65.209	0.000
. .	. * .	25	-0.030	-0.081	65.320	0.000
. .	. .	26	-0.026	0.035	65.403	0.000
. .	. .	27	-0.007	-0.046	65.409	0.000
. .	. * .	28	0.065	0.076	65.951	0.000
. .	. .	29	0.067	0.046	66.543	0.000
. .	. .	30	0.060	-0.041	67.021	0.000
. .	. .	31	0.044	0.029	67.285	0.000
. .	. .	32	0.024	-0.038	67.363	0.000
. .	. .	33	0.050	0.015	67.709	0.000
. .	. * .	34	-0.054	-0.098	68.128	0.000
. .	. .	35	-0.058	0.026	68.622	0.001
. .	. .	36	-0.045	0.036	68.924	0.001

The P values in the correlogram in table 60 are less than 5%, so we will reject the null hypothesis (the variables are stationary) and accept the alternative hypothesis show also that entrepreneurship series are not stationary in the first difference.

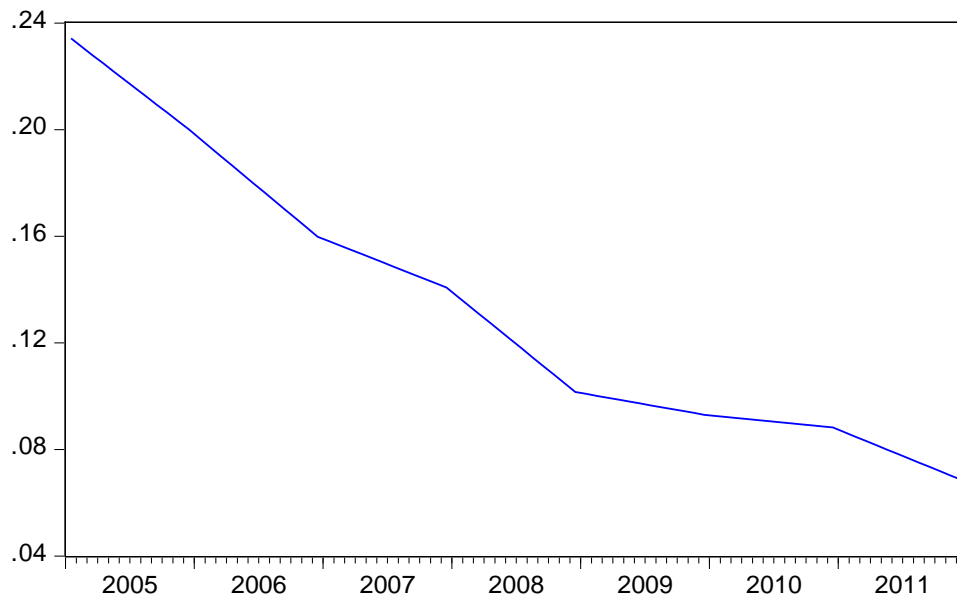
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Table 61: correlogram of entrepreneurship at second difference

Date: 11/25/13 Time: 15:12 Sample: 2005M01 2011M12 Included observations: 82						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
.*.	.*	1	-0.172	-0.172	2.5042	0.114
. *	. *	2	0.128	0.102	3.9226	0.141
. .	. .	3	-0.000	0.038	3.9226	0.270
.*.	.*.	4	-0.072	-0.083	4.3811	0.357
. *	. *	5	0.198	0.178	7.8752	0.163
. .	. .	6	-0.033	0.044	7.9713	0.240
.*.	** .	7	-0.191	-0.255	11.326	0.125
. .	. .	8	0.026	-0.048	11.389	0.181
.*.	. .	9	-0.091	-0.004	12.168	0.204
. *	. *	10	0.141	0.100	14.072	0.170
. .	. .	11	-0.012	0.013	14.086	0.228
. .	. .	12	0.000	0.061	14.086	0.295
. .	. .	13	-0.018	-0.018	14.119	0.366
. .	. .	14	0.022	-0.015	14.168	0.437
. .	. .	15	0.061	0.022	14.547	0.485
.*.	.*.	16	-0.126	-0.158	16.198	0.439
. .	. .	17	-0.032	-0.057	16.307	0.502
. *	. *	18	0.090	0.169	17.177	0.511
. .	. *	19	0.006	0.091	17.181	0.578
. .	* .	20	0.000	-0.099	17.181	0.641
. .	. *	21	0.036	0.084	17.324	0.691
.*.	. .	22	-0.074	-0.009	17.944	0.709
. *	* .	23	0.076	-0.085	18.621	0.723
. .	. .	24	0.036	0.024	18.771	0.764
.*.	. .	25	-0.109	-0.057	20.207	0.736
. .	. .	26	0.049	0.027	20.503	0.767
.*.	. .	27	-0.134	-0.061	22.746	0.699
. .	. .	28	0.025	0.002	22.824	0.742
. .	. .	29	0.070	0.034	23.458	0.755
.*.	. .	30	-0.108	-0.050	24.995	0.725
. .	. .	31	0.057	0.024	25.432	0.748
. .	. .	32	-0.021	-0.007	25.493	0.786
. *	. *	33	0.108	0.105	27.119	0.754
. .	* .	34	-0.039	-0.069	27.341	0.784
. .	. .	35	-0.010	-0.000	27.356	0.818
. .	. .	36	0.016	0.010	27.392	0.848

The correlogram in table 61 show that the P value is more that 5%, so we will accept the null hypothesis that is the series is stationary so the entrepreneurship series are stationary in the second level.

Figure 56: Graphs of unemployment series
rate of unemployment



The graph in the figure 56 show the decrease in the rate of unemployment. From this figure, we understand that the Algerian government make different mechanism to curb the rate unemployment. In the figure bellows, we demonstrate the correlograms to look for the stationarity of unemployment series.

The data that we have about unemployment are in annual periods from 2000 until 2011. To combine them with the different monthly data of entrepreneurship through CNAC, it is necessary for us to use a method to convert the data from annual to monthly data. By using EViews software, here are different methods to convert. The suitable method is the **Linear-match last**²³⁹ method to convert the data from annual to monthly data. This method execute by inserting the low observation value into the last period of the high frequency data, then performs linear interpolation on the missing values.

²³⁹ IHS Global Inc., *EViews 8 User's Guide I*, vol. 1, 2013th ed. (United States, 2013), 154, www.eviews.com.

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Table 62: correlogram of unemployment at level

Date: 11/25/13 Time: 15:24 Sample: 2005M01 2011M12 Included observations: 84						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. *****	. *****	1	0.962	0.962	80.515	0.000
. *****	. .	2	0.924	-0.020	155.66	0.000
. *****	. .	3	0.885	-0.019	225.58	0.000
. *****	. .	4	0.847	-0.019	290.41	0.000
. *****	. .	5	0.809	-0.018	350.33	0.000
. *****	. .	6	0.772	-0.018	405.49	0.000
. *****	. .	7	0.734	-0.017	456.10	0.000
. *****	. .	8	0.697	-0.016	502.34	0.000
. *****	. .	9	0.661	-0.016	544.42	0.000
. *****	. .	10	0.625	-0.015	582.54	0.000
. *****	. .	11	0.590	-0.014	616.94	0.000
. *****	. .	12	0.555	-0.014	647.82	0.000
. *****	. .	13	0.521	-0.011	675.42	0.000
. *****	. .	14	0.487	-0.016	699.94	0.000
. ****	. .	15	0.454	-0.016	721.56	0.000
. ****	. .	16	0.422	-0.016	740.48	0.000
. ****	. .	17	0.390	-0.016	756.89	0.000
. ****	. .	18	0.359	-0.015	770.98	0.000
. ***	. .	19	0.328	-0.015	782.93	0.000
. ***	. .	20	0.298	-0.015	792.95	0.000
. ***	. .	21	0.268	-0.015	801.20	0.000
. ***	. .	22	0.239	-0.014	807.88	0.000
. **	. .	23	0.211	-0.014	813.17	0.000
. **	. .	24	0.184	-0.014	817.24	0.000
. **	. .	25	0.156	-0.026	820.22	0.000
. **	. .	26	0.128	-0.026	822.27	0.000
. **	. .	27	0.100	-0.026	823.55	0.000
. .	. .	28	0.072	-0.027	824.22	0.000
. .	. .	29	0.044	-0.027	824.48	0.000
. .	. .	30	0.016	-0.028	824.52	0.000
. .	. .	31	-0.012	-0.029	824.54	0.000
. .	. .	32	-0.040	-0.030	824.76	0.000
. * .	. .	33	-0.069	-0.030	825.44	0.000
. * .	. .	34	-0.097	-0.031	826.81	0.000
. * .	. .	35	-0.126	-0.032	829.14	0.000
. * .	. .	36	-0.154	-0.033	832.73	0.000

As we said before, this correlogram show that the unemployment series is not stationary at level (the P value is $0 < 5\%$, we will reject the null hypothesis that is our series is stationary).

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Table 63: correlogram of unemployment at first difference

Date: 11/25/13 Time: 15:30 Sample: 2005M01 2011M12 Included observations: 83						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. *****	. *****	1	0.929	0.929	74.228	0.000
. *****	. .	2	0.858	-0.037	138.30	0.000
. *****	. .	3	0.787	-0.038	192.86	0.000
. *****	. .	4	0.715	-0.040	238.56	0.000
. *****	. .	5	0.644	-0.041	276.10	0.000
. *****	. .	6	0.573	-0.043	306.19	0.000
. *****	. .	7	0.502	-0.045	329.57	0.000
. ****	. .	8	0.431	-0.047	347.03	0.000
. ****	. .	9	0.360	-0.050	359.36	0.000
. ***	. .	10	0.288	-0.052	367.40	0.000
. ***	. .	11	0.217	-0.055	372.02	0.000
. **	. .	12	0.144	-0.077	374.07	0.000
. .	. ***	13	0.133	0.403	375.85	0.000
. .	. .	14	0.121	-0.030	377.35	0.000
. .	. .	15	0.110	-0.027	378.62	0.000
. .	. .	16	0.099	-0.027	379.65	0.000
. .	. .	17	0.088	-0.028	380.48	0.000
. .	. .	18	0.077	-0.029	381.13	0.000
. .	. .	19	0.066	-0.030	381.61	0.000
. .	. .	20	0.055	-0.031	381.94	0.000
. .	. .	21	0.044	-0.032	382.16	0.000
. .	. .	22	0.033	-0.033	382.28	0.000
. .	. .	23	0.021	-0.033	382.34	0.000
. .	. *	24	0.028	0.107	382.43	0.000
. .	. *	25	0.025	0.128	382.51	0.000
. .	. .	26	0.022	-0.020	382.57	0.000
. .	. .	27	0.019	-0.021	382.61	0.000
. .	. .	28	0.015	-0.021	382.64	0.000
. .	. .	29	0.012	-0.022	382.66	0.000
. .	. .	30	0.009	-0.022	382.67	0.000
. .	. .	31	0.006	-0.023	382.68	0.000
. .	. .	32	0.002	-0.023	382.68	0.000
. .	. .	33	-0.001	-0.024	382.68	0.000
. .	. .	34	-0.004	-0.025	382.68	0.000
. .	. .	35	-0.008	-0.022	382.69	0.000
. .	. .	36	-0.028	-0.029	382.81	0.000

The correlogram in table 63 present the test of stationarity of the unemployment series. We see that the P value is 0 at all series (Less than 5%), so we will reject the null hypothesis (H_0 : the serie is stationary) for that the unemployment series are not stationary at first difference.

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Table 64: correlogram of unemployment at second difference

Date: 11/25/13 Time: 15:36 Sample: 2005M01 2011M12 Included observations: 82						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
.	.	1	-0.002	-0.002	0.0003	0.986
.	.	2	-0.002	-0.002	0.0006	1.000
.	.	3	-0.002	-0.002	0.0009	1.000
.	.	4	-0.002	-0.002	0.0013	1.000
.	.	5	-0.002	-0.002	0.0016	1.000
.	.	6	-0.002	-0.002	0.0020	1.000
.	.	7	-0.002	-0.002	0.0024	1.000
.	.	8	-0.002	-0.002	0.0027	1.000
.	.	9	-0.002	-0.002	0.0031	1.000
.	.	10	-0.002	-0.002	0.0036	1.000
.	.	11	-0.002	-0.002	0.0041	1.000
**** .	**** .	12	-0.518	-0.518	26.380	0.009
.	.	13	-0.004	-0.009	26.382	0.015
.	.	14	-0.004	-0.009	26.384	0.023
.	.	15	-0.004	-0.009	26.385	0.034
.	.	16	-0.004	-0.009	26.387	0.049
.	.	17	-0.004	-0.010	26.389	0.068
.	.	18	-0.004	-0.010	26.391	0.091
.	.	19	-0.004	-0.010	26.393	0.120
.	.	20	-0.004	-0.010	26.395	0.153
.	.	21	-0.004	-0.010	26.397	0.192
.	.	22	-0.004	-0.010	26.399	0.235
.	.	23	-0.002	-0.008	26.399	0.282
.	.	24	0.084	-0.253	27.239	0.293
.	.	25	-0.002	-0.016	27.239	0.344
.	.	26	-0.002	-0.016	27.240	0.397
.	.	27	-0.002	-0.016	27.240	0.451
.	.	28	-0.002	-0.017	27.240	0.505
.	.	29	-0.002	-0.017	27.241	0.559
.	.	30	-0.002	-0.018	27.241	0.611
.	.	31	-0.002	-0.018	27.242	0.660
.	.	32	-0.002	-0.018	27.242	0.706
.	.	33	-0.002	-0.019	27.243	0.749
.	.	34	-0.002	-0.019	27.243	0.788
.	.	35	-0.004	-0.019	27.246	0.822
.	.	36	0.141	0.091	30.230	0.739

From the table 63, as we see that the P value is more that 5%, we accept the null hypothesis that is our series are stationary at second level.

6.2. Unit root test:

6.2.1. ADF (Augmented Dickey Fuller) test:

Table 65: results of ADF test for the entrepreneurship series:

		at level			first difference			second difference			
		model 3	model 2	Model 1	model 3	model2	model 1	model 3	model2	model 1	
EN	ADF	3.835675	2.483170	2.513694	-0.893428	1.714222	2.126695	-10.51634	-10.21870	-10.09552	
	critical value	1%	-4.083355	-3.512290	-2.593468	-4.073859	-3.513344	-2.593824	-4.075340	-3.513344	-2.593824
		5%	-3.470032	-2.897223	-1.944811	-3.465548	-2.897678	-1.944862	-3.466248	-2.897678	-1.944862
		10%	-3.161982	-2.585861	-1.614175	-3.159372	-2.586103	-1.614145	-3.159780	-2.586103	-1.614145

From the test ADF presented in the table above, we find that:

At level, all ADF test statistic in all models (model 3, model 2 and model 1) are superior to the critical value at all (1%, 5% and 10%) in the same model. From another way, the most known model to test the stationary of the series is the third model (intercept and trend). Therefore, from the table 64, T statistic ADF (3.835675) is superior to critical value in all degrees (-4.083355 at 1%, -3.470032 at 5% and -3.161982 at 10%), the matter that it obliged us to accept the Null hypothesis. This means, entrepreneurship series has a unit root test, or with another meaning, it is not stationary. There for, we will differentiate with a degree and making the estimation for the second time.

At first difference, we find also that all t statistics of ADF are superior to the critical value in all models, in the different degrees respectively. Therefore, the entrepreneurship is not stationary for the second time. In addition, we will differentiate the test for the second time to look for the stationary of the series.

In the second difference, the T statistics of ADF is less than the critical value in all models in the first degree (1%). For that, we the entrepreneurship series are stationary at second difference in 1%.

Table 66: results of ADF test for the unemployment series

			at level		
			model 3	model 2	Model 1
UN	ADF		-2.113654	-1.851737	-2.259306
	critical value	1%	-4.073859	-3.512290	-2.593468
		5%	-3.465548	-2.897223	-1.944811
		10%	-3.159372	-2.585861	-1.614175

From the table 66, we find that:

At level:

In both model 3 and model, the ADF t statistics is superior to the critical value in the three degrees. The matter that it obliged us to accept the null hypothesis (the unemployment series is not stationary). However, in the first model (no intercept, no trend), we found that the ADF t statistics is less than the critical value at 5%. In this point, we reject the null hypothesis, so the unemployment series is stationary at level in the model 1.

At first difference, all ADF t statistics in the three models are superior to the critical value respectively in all degrees. Therefore, the unemployment series is not stationary at first difference. Therefore, we will accept the null hypothesis and the unemployment is not a stationary series.

At second difference, all ADF t statistics in the three models are less than the critical value in the three models respectively in the first degree (1%). Therefore, the unemployment series are stationary in 1%.

6.2.2. PP (Phillips-Perron) test:

Table 67: results of PP test for the entrepreneurship series:

		at level			
		model 3	model 2	Model 1	
EN	PP	-4.093567	5.325271	8.624592	
	critical value	1%	-3.511262	-3.511262	-2.593121
		5%	-2.896779	-2.896779	-1.944762
		10%	-2.585626	-2.585626	-1.614204

From the table 67, the T statistics of Phillips-Perron test in the model three (-4.093567) is inferior to the critical value at 1% (-3.511262). Therefore, the entrepreneurship series is stationary at level.

Table 68: results of PP test for the unemployment series

		at level			
		model 3	model 2	Model 1	
UN	PP	-1.305192	-4.093567	-10.63896	
	critical value	1%	-4.072415	-3.511262	-2.593121
		5%	-3.464865	-2.896779	-1.944762
		10%	-3.158974	-2.585626	-1.614204

The table 68 presents the results of Phillips Perron test for the unemployment series. The T statistics of PP test (-1.305192) in model three are superior to the critical value at 10% (-3.158974). In the second model, the T statistics of PP test (-4.093567) is inferior to critical value in 1% (-3.511262), the matter that allow us to refuse the null hypothesis (the unemployment series has a unit root test), so the unemployment series is stationary at level.

6.3. Lag length selection:

Table 69: lag length selection for both series (UN,EN)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-351.3635	NA	37.46058	9.299040	9.360375	9.323553
1	111.2735	888.7501	0.000215	-2.770356	-2.586350	-2.696818
2	180.8123	129.9277	3.83e-05*	-4.495060*	-4.188384*	-4.372498*
3	182.2396	2.591744	4.10e-05	-4.427358	-3.998013	-4.255771
4	184.3007	3.634049	4.32e-05	-4.376335	-3.824319	-4.155722
5	186.3174	3.449518	4.56e-05	-4.324141	-3.649455	-4.054504
6	187.0472	1.210000	4.98e-05	-4.238084	-3.440728	-3.919422
7	191.1892	6.649049	4.98e-05	-4.241822	-3.321795	-3.874135
8	197.7091	10.12290*	4.69e-05	-4.308133	-3.265437	-3.891421

* indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error
 AIC: Akaike information criterion
 SC: Schwarz information criterion
 HQ: Hannan-Quinn information criterion

From the table 69, we look that there is a star (*) in the values in the four criterions below:

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ : Hannan-Quinn information criterions.

Therefore, the la is equal to: **two**

6.4. Johansen cointegration test

Table 70: Johansen cointegration test

Date: 11/23/13 Time: 23:00				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Trend assumption: Linear deterministic trend				
Series: EN UN				
Lags interval (in first differences): 1 to 2				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.072253	10.27261	15.49471	0.2603
At most 1 *	0.050506	4.197945	3.841466	0.0405
Trace test indicates no cointegration at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.072253	6.074667	14.26460	0.6036
At most 1 *	0.050506	4.197945	3.841466	0.0405
Max-eigenvalue test indicates no cointegration at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegrating Coefficients (normalized by b'S11*b=I):				
EN	UN			
0.007901	47.38652			
0.002221	-22.69625			
Unrestricted Adjustment Coefficients (alpha):				
D(EN)	2.907020	1.714851		
D(UN)	-6.82E-05	7.15E-05		
1 Cointegrating Equation(s):		Log likelihood	196.4690	
Normalized cointegrating coefficients (standard error in parentheses)				
EN	UN			
1.000000	5997.626			
	(1815.76)			
Adjustment coefficients (standard error in parentheses)				
D(EN)	0.022968			
	(0.01178)			
D(UN)	-5.39E-07			
	(3.7E-07)			

From the table 70, the null hypothesis (none), we find that the probability value is 60% at none; it is superior at 5%. Therefore, we will accept the null hypothesis that is there is no cointegration between the variables. Therefore, there is no cointegration between the entrepreneurship through CNAC mechanism and the unemployment. From another point, we find that at most 1, the p value is less than 5%, so we will reject the alternative hypothesis and accept for the second time, for another meaning there is no long run association between the variables.

6.5. Granger causality test:

Table 71: Granger causality test

Pairwise Granger Causality Tests			
Date: 11/23/13 Time: 23:08			
Sample: 2005M01 2011M12			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
UN does not Granger Cause EN	82	1.21674	0.3018
EN does not Granger Cause UN		0.92281	0.4017

The probability value in the table 71 is 30.18% for the first hypothesis that is Unemployment not granger cause EN. The probability value is superior to 5%, so we cannot reject the null hypothesis, so unemployment does not granger cause entrepreneurship through CNAC.

For the second null hypothesis, we also cannot rejects because the probability value is superior to 5%, so the entrepreneurship does not granger cause unemployment.

Our study finishes here because there is no cointegration between our variables (entrepreneurship through CNAC and unemployment). The growth of entrepreneurship through CNAC mechanism cannot contribute in the unemployment reduction in the long run.

Nevertheless, we will complete by the estimation vector autoregressive.

6.6. Vector Autoregression Estimates:

Table 72: Vector Autoregression Estimates

Vector Autoregression Estimates		
Date: 11/23/13 Time: 23:17		
Sample (adjusted): 2005M03 2011M12		
Included observations: 82 after adjustments		
Standard errors in () & t-statistics in []		
	EN	UN
EN(-1)	1.808976 (0.12334) [14.6669]	-2.05E-06 (3.8E-06) [-0.54631]
EN(-2)	-0.779021 (0.12850) [-6.06260]	1.73E-06 (3.9E-06) [0.44264]
UN(-1)	-779.2525 (1794.77) [-0.43418]	1.859532 (0.05467) [34.0155]
UN(-2)	870.7752 (1767.61) [0.49263]	-0.864195 (0.05384) [-16.0512]
C	-20.66387 (13.0670) [-1.58138]	0.000514 (0.00040) [1.29168]
R-squared	0.998522	0.999927
Adj. R-squared	0.998445	0.999923
Sum sq. resids	13698.02	1.27E-05
S.E. equation	13.33778	0.000406
F-statistic	13006.88	263680.3
Log likelihood	-326.2027	526.5253
Akaike AIC	8.078115	-12.72013
Schwarz SC	8.224867	-12.57338
Mean dependent	409.7683	0.130287
S.D. dependent	338.2818	0.046360
Determinant resid covariance (dof adj.)		2.93E-05
Determinant resid covariance		2.59E-05
Log likelihood		200.3733
Akaike information criterion		-4.643250
Schwarz criterion		-4.349748

From the table 72, we find that the t statistics of entrepreneurship EN is significant only for entrepreneurship EN at lag 1 with a value of [14.6669], it is not significant for unemployment in the first lag [-0.54631]. Moreover, for unemployment coefficient also, it is significant just for unemployment in the lag 1 [34.0155],

Table 73: Estimate the equation

Dependent Variable: EN				
Method: Least Squares				
Date: 11/26/13 Time: 12:56				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
EN = C(1)*EN(-1) + C(2)*EN(-2) + C(3)*UN(-1) + C(4)*UN(-2) + C(5)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.808976	0.123337	14.66689	0.0000
C(2)	-0.779021	0.128496	-6.062599	0.0000
C(3)	-779.2525	1794.766	-0.434181	0.6654
C(4)	870.7752	1767.606	0.492630	0.6237
C(5)	-20.66387	13.06696	-1.581382	0.1179
R-squared	0.998522	Mean dependent var		409.7683
Adjusted R-squared	0.998445	S.D. dependent var		338.2818
S.E. of regression	13.33778	Akaike info criterion		8.078115
Sum squared resid	13698.02	Schwarz criterion		8.224867
Log likelihood	-326.2027	Hannan-Quinn criter.		8.137034
F-statistic	13006.88	Durbin-Watson stat		2.060948
Prob(F-statistic)	0.000000			

Source: edited by the student by using EVIEWS8.0

$$\underline{\underline{UN = - 2.05234972271e-06*EN(-1) + 1.73243652673e-06*EN(-2) + 1.85953249909*UN(-1) - 0.864194812579*UN(-2) + 0.000514099987399}}$$

6.7. Impulse response to cholesky :

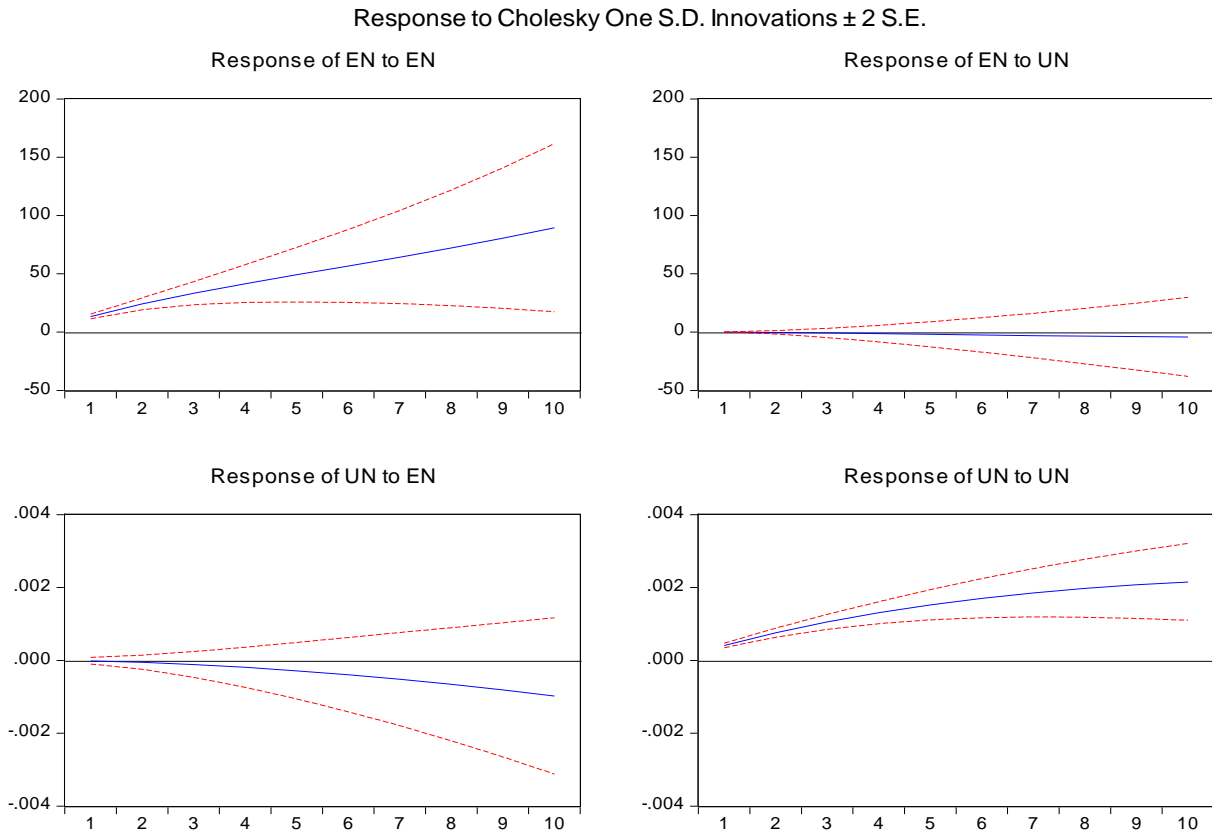
This test helps us to understand how our series (entrepreneurship, unemployment) react to each other.

In the first table, we find that entrepreneurship grow according to the decrease in the rate of unemployment. For the response of unemployment to the changes of entrepreneurship, in the decrease of the entrepreneurship, there is a growth in the rate of unemployment. Therefore, we can estimate that there is an **Inverse relationship** between the two variables unemployment and entrepreneurship, which is mean bidirectional relationship between entrepreneurship and unemployment.

Table 74: Impulse response to cholesky

Response of EN:		
Period	EN	UN
1	13.33778 (1.04151)	0.000000 (0.00000)
2	24.13886 (2.50141)	-0.316382 (0.72911)
3	33.30581 (4.97926)	-0.807109 (1.95661)
4	41.48694 (8.10926)	-1.377248 (3.53209)
5	49.15348 (11.6825)	-1.964414 (5.35944)
6	56.65406 (15.6315)	-2.528600 (7.37963)
7	64.25302 (19.9698)	-3.045078 (9.55917)
8	72.15753 (24.7585)	-3.499450 (11.8824)
9	80.53689 (30.0878)	-3.884213 (14.3463)
10	89.53620 (36.0663)	-4.196371 (16.9570)
Response of UN:		
Period	EN	UN
1	-1.43E-05 (4.5E-05)	0.000406 (3.2E-05)
2	-5.39E-05 (9.7E-05)	0.000755 (6.3E-05)
3	-0.000114 (0.00018)	0.001054 (0.00010)
4	-0.000193 (0.00028)	0.001308 (0.00015)
5	-0.000287 (0.00039)	0.001523 (0.00021)
6	-0.000396 (0.00051)	0.001704 (0.00027)
7	-0.000519 (0.00064)	0.001853 (0.00033)
8	-0.000657 (0.00078)	0.001976 (0.00040)
9	-0.000810 (0.00092)	0.002075 (0.00046)
10	-0.000979 (0.00107)	0.002152 (0.00053)
Cholesky Ordering: EN UN Standard Errors: Analytic		

Figure 57: Response to Cholesky One S.D. Innovation ± 2 S.E.



The figures in figure 57 present also the:

- The first figure present the response of entrepreneurship to itself with the chock: when there is a chock given, entrepreneurship affect entrepreneurship, there will be a positive effect of entrepreneurship to itself in the long run.
- The second figure that it contain the effect of unemployment to entrepreneurship: if there is a positive choke in unemployment, there will be a negative effect in entrepreneurship. Therefore, there is a very few effect of unemployment to entrepreneurship in a negative way.
- The third figure present the response of unemployment to the shock in the entrepreneurship series, we find that if there is a positive choke in entrepreneurship, there will be negative choke in unemployment, the one that it present bidirectional effect between entrepreneurship and unemployment.
- The fourth figure: the reaction of unemployment on unemployment is a positive reaction.

CONCLUSION

From the important point the Algerian government and the different policies to focus on the sector of activity, it is necessary for them to make facilitates in the production sector, construction sector and agriculture sector because they create more employment rated than the services sector. In addition to produce products and enhance the Algerian market with local products rather than import them. Also, enhance the Algerian exports to improve the GDP in addition to the HDGDP (Hydrocarbon GDP).

From our empirical study, we find that both of genders (male entrepreneurs and female entrepreneurs) contribute in creating employment but with less effect according to the small size of enterprise and the instable environment, in addition to the competitors.

From another point, we find that, the sector has its own contribution in creating employment because each activity does not need number of employees as the others

For the econometrical study, we try to use the VAR (Vector Autoregression model) to study the correlation between decrease in the rates of unemployment and growth in number of entrepreneurs through CNAC mechanism because it is the first mechanism created to curb unemployment. As a result of this model, we find that there is no correlation between decrease in unemployment with the growth in number of entrepreneurs through CNAC mechanism through different test of causality and cointegration. However, from the impulse response test, we can estimate the invers correlation between growth in CNAC entrepreneurship and rate of unemployment in Tlemcen. As a recommendation, it is necessary for the Algeria government to look for this mechanism because as our data they give the sum of 53.5 Milliard AD of loans, and it touch the credibility of the mechanism.

APPENDICES

Augmented dickey fuller tests:

Model 3 (intercept and trend)/ at level / entrepreneurship

Null Hypothesis: EN has a unit root					
Exogenous: Constant, Linear Trend					
Lag Length: 7 (Automatic - based on SIC, maxlag=11)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			3.835675	1.0000	
Test critical values:	1% level		-4.083355		
	5% level		-3.470032		
	10% level		-3.161982		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(EN)					
Method: Least Squares					
Date: 11/23/13 Time: 17:55					
Sample (adjusted): 2005M09 2011M12					
Included observations: 76 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	EN(-1)	0.096035	0.025037	3.835675	0.0003
	D(EN(-1))	0.486266	0.138341	3.514973	0.0008
	D(EN(-2))	0.064674	0.164096	0.394122	0.6948
	D(EN(-3))	-0.422934	0.197511	-2.141314	0.0359
	D(EN(-4))	-0.327604	0.194969	-1.680287	0.0976
	D(EN(-5))	0.080606	0.203876	0.395368	0.6938
	D(EN(-6))	-0.614403	0.210428	-2.919779	0.0048
	D(EN(-7))	-0.796705	0.223042	-3.572003	0.0007
	C	16.80900	6.202201	2.710167	0.0086
	@TREND("2005M01")	-0.486058	0.310759	-1.564098	0.1226
R-squared	0.723493	Mean dependent var		17.47368	
Adjusted R-squared	0.685788	S.D. dependent var		21.36319	
S.E. of regression	11.97506	Akaike info criterion		7.925608	
Sum squared resid	9464.534	Schwarz criterion		8.232284	
Log likelihood	-291.1731	Hannan-Quinn criter.		8.048171	
F-statistic	19.18802	Durbin-Watson stat		1.921301	
Prob(F-statistic)	0.000000				

Model 2 (intercept) / at level / entrepreneurship

Null Hypothesis: EN has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			2.483170	1.0000
Test critical values:	1% level		-3.512290	
	5% level		-2.897223	
	10% level		-2.585861	

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*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(EN)
 Method: Least Squares
 Date: 11/23/13 Time: 17:52
 Sample (adjusted): 2005M03 2011M12
 Included observations: 82 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EN(-1)	0.015043	0.006058	2.483170	0.0151
D(EN(-1))	0.814141	0.126855	6.417877	0.0000
C	-1.463807	2.347353	-0.623599	0.5347

R-squared	0.602184	Mean dependent var	16.37805
Adjusted R-squared	0.592113	S.D. dependent var	20.94121
S.E. of regression	13.37432	Akaike info criterion	8.060449
Sum squared resid	14130.92	Schwarz criterion	8.148500
Log likelihood	-327.4784	Hannan-Quinn criter.	8.095800
F-statistic	59.79221	Durbin-Watson stat	2.044706
Prob(F-statistic)	0.000000		

Model 1 (none) / at level / entrepreneurship

Null Hypothesis: EN has a unit root
 Exogenous: None
 Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	2.513694	0.9970
Test critical values:		
1% level	-2.593468	
5% level	-1.944811	
10% level	-1.614175	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(EN)
 Method: Least Squares
 Date: 11/23/13 Time: 18:36
 Sample (adjusted): 2005M03 2011M12
 Included observations: 82 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EN(-1)	0.013167	0.005238	2.513694	0.0140
D(EN(-1))	0.804151	0.125358	6.414835	0.0000

R-squared	0.600226	Mean dependent var	16.37805
Adjusted R-squared	0.595229	S.D. dependent var	20.94121
S.E. of regression	13.32314	Akaike info criterion	8.040970
Sum squared resid	14200.48	Schwarz criterion	8.099670
Log likelihood	-327.6798	Hannan-Quinn criter.	8.064537
Durbin-Watson stat	2.013108		

APPENDICES

Model 3 (intercept and trend)/at first difference/entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-0.893428	0.9513
Test critical values:	1% level		-4.073859	
	5% level		-3.465548	
	10% level		-3.159372	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 18:47				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	-0.107670	0.120513	-0.893428	0.3743
C	-2.727861	3.094496	-0.881520	0.3807
@TREND("2005M01")	0.142036	0.078472	1.810014	0.0741
R-squared	0.040337	Mean dependent var		1.731707
Adjusted R-squared	0.016042	S.D. dependent var		13.71765
S.E. of regression	13.60718	Akaike info criterion		8.094972
Sum squared resid	14627.28	Schwarz criterion		8.183023
Log likelihood	-328.8938	Hannan-Quinn criter.		8.130323
F-statistic	1.660281	Durbin-Watson stat		2.111189
Prob(F-statistic)	0.196649			

Model 2 (intercept)/ at first difference/ entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			1.714222	0.9996
Test critical values:	1% level		-3.513344	
	5% level		-2.897678	
	10% level		-2.586103	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 18:43				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	0.221472	0.129197	1.714222	0.0905
D(EN(-1),2)	-0.362855	0.152974	-2.372010	0.0202
C	-1.071044	2.337360	-0.458228	0.6481
R-squared	0.067730	Mean dependent var		1.753086
Adjusted R-squared	0.043825	S.D. dependent var		13.80175
S.E. of regression	13.49593	Akaike info criterion		8.078987
Sum squared resid	14206.92	Schwarz criterion		8.167670
Log likelihood	-324.1990	Hannan-Quinn criter.		8.114568
F-statistic	2.833366	Durbin-Watson stat		1.965793
Prob(F-statistic)	0.064883			

Model 1 (none)/ at first difference/ entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: None				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			2.126695	0.9917
Test critical values:	1% level		-2.593824	
	5% level		-1.944862	
	10% level		-1.614145	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 18:47				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	0.176208	0.082855	2.126695	0.0366
D(EN(-1),2)	-0.330803	0.135363	-2.443822	0.0168
R-squared	0.065220	Mean dependent var		1.753086
Adjusted R-squared	0.053388	S.D. dependent var		13.80175
S.E. of regression	13.42828	Akaike info criterion		8.056984
Sum squared resid	14245.17	Schwarz criterion		8.116106
Log likelihood	-324.3078	Hannan-Quinn criter.		8.080704
Durbin-Watson stat	1.938646			

APPENDICES

Model 3 (intercept and trend)/ at second difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-10.51634	0.0000
Test critical values:	1% level		-4.075340	
	5% level		-3.466248	
	10% level		-3.159780	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 18:51				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1),2)	-1.216296	0.115658	-10.51634	0.0000
C	-3.047060	3.137521	-0.971168	0.3345
@TREND("2005M01")	0.117966	0.064472	1.829708	0.0711
R-squared	0.587024	Mean dependent var		0.493827
Adjusted R-squared	0.576435	S.D. dependent var		20.68461
S.E. of regression	13.46193	Akaike info criterion		8.073943
Sum squared resid	14135.45	Schwarz criterion		8.162626
Log likelihood	-323.9947	Hannan-Quinn criter.		8.109524
F-statistic	55.43647	Durbin-Watson stat		1.863323
Prob(F-statistic)	0.000000			

Model 2 (intercept)/ at second difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-10.21870	0.0000
Test critical values:	1% level		-3.513344	
	5% level		-2.897678	
	10% level		-2.586103	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 18:49				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

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D(EN(-1),2)	-1.190036	0.116457	-10.21870	0.0000
C	1.992391	1.524902	1.306570	0.1951
R-squared	0.569299	Mean dependent var		0.493827
Adjusted R-squared	0.563847	S.D. dependent var		20.68461
S.E. of regression	13.66051	Akaike info criterion		8.091277
Sum squared resid	14742.15	Schwarz criterion		8.150399
Log likelihood	-325.6967	Hannan-Quinn criter.		8.114997
F-statistic	104.4218	Durbin-Watson stat		1.840699
Prob(F-statistic)	0.000000			

Model 1 (none)/ at second difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: None				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-10.09552	0.0000
Test critical values:	1% level		-2.593824	
	5% level		-1.944862	
	10% level		-1.614145	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 18:51				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1),2)	-1.175403	0.116428	-10.09552	0.0000
R-squared	0.559992	Mean dependent var		0.493827
Adjusted R-squared	0.559992	S.D. dependent var		20.68461
S.E. of regression	13.72075	Akaike info criterion		8.087964
Sum squared resid	15060.72	Schwarz criterion		8.117526
Log likelihood	-326.5626	Hannan-Quinn criter.		8.099825
Durbin-Watson stat	1.832273			

Model 3 (intercept and trend)/at level/ unemployment

Null Hypothesis: UN has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-2.113654	0.5304
Test critical values:	1% level		-4.073859	
	5% level		-3.465548	
	10% level		-3.159372	

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*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(UN)
 Method: Least Squares
 Date: 11/23/13 Time: 18:58
 Sample (adjusted): 2005M03 2011M12
 Included observations: 82 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.008353	0.003952	-2.113654	0.0377
D(UN(-1))	0.873988	0.053682	16.28077	0.0000
C	0.001401	0.000854	1.640433	0.1049
@TREND("2005M01")	-1.25E-05	7.88E-06	-1.585114	0.1170

R-squared	0.882905	Mean dependent var	-0.001983
Adjusted R-squared	0.878402	S.D. dependent var	0.001153
S.E. of regression	0.000402	Akaike info criterion	-12.75254
Sum squared resid	1.26E-05	Schwarz criterion	-12.63514
Log likelihood	526.8540	Hannan-Quinn criter.	-12.70540
F-statistic	196.0427	Durbin-Watson stat	1.960936
Prob(F-statistic)	0.000000		

Model 2 (intercept) /at level/ unemployment:

Null Hypothesis: UN has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.851737	0.3534
Test critical values:		
1% level	-3.512290	
5% level	-2.897223	
10% level	-2.585861	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(UN)
 Method: Least Squares
 Date: 11/23/13 Time: 18:57
 Sample (adjusted): 2005M03 2011M12
 Included observations: 82 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.002440	0.001318	-1.851737	0.0678
D(UN(-1))	0.861658	0.053622	16.06918	0.0000
C	6.39E-05	0.000135	0.474036	0.6368

R-squared	0.879133	Mean dependent var	-0.001983
Adjusted R-squared	0.876074	S.D. dependent var	0.001153
S.E. of regression	0.000406	Akaike info criterion	-12.74522
Sum squared resid	1.30E-05	Schwarz criterion	-12.65717
Log likelihood	525.5541	Hannan-Quinn criter.	-12.70987
F-statistic	287.3068	Durbin-Watson stat	1.888104

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Prob(F-statistic)	0.000000
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Model 1 (none)/ at level/ unemployment

Null Hypothesis: UN has a unit root				
Exogenous: None				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-2.259306	0.0239
Test critical values:	1% level		-2.593468	
	5% level		-1.944811	
	10% level		-1.614175	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(UN)				
Method: Least Squares				
Date: 11/23/13 Time: 18:59				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.001975	0.000874	-2.259306	0.0266
D(UN(-1))	0.864045	0.053126	16.26420	0.0000
R-squared	0.878790	Mean dependent var		-0.001983
Adjusted R-squared	0.877275	S.D. dependent var		0.001153
S.E. of regression	0.000404	Akaike info criterion		-12.76677
Sum squared resid	1.31E-05	Schwarz criterion		-12.70807
Log likelihood	525.4377	Hannan-Quinn criter.		-12.74320
Durbin-Watson stat	1.888114			

Model 3 (intercept and trend)/ at first difference/ unemployment

Null Hypothesis: D(UN) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-2.123454	0.5250
Test critical values:	1% level		-4.073859	
	5% level		-3.465548	
	10% level		-3.159372	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(UN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 19:06				
Sample (adjusted): 2005M03 2011M12				

APPENDICES

Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UN(-1))	-0.116013	0.054634	-2.123454	0.0368
C	-0.000351	0.000210	-1.677458	0.0974
@TREND("2005M01")	3.23E-06	2.66E-06	1.214455	0.2282
R-squared	0.055437	Mean dependent var		1.79E-05
Adjusted R-squared	0.031524	S.D. dependent var		0.000417
S.E. of regression	0.000411	Akaike info criterion		-12.72123
Sum squared resid	1.33E-05	Schwarz criterion		-12.63318
Log likelihood	524.5705	Hannan-Quinn criter.		-12.68588
F-statistic	2.318265	Durbin-Watson stat		1.889472
Prob(F-statistic)	0.105106			

Model 2 (intercept)/at first difference/ unemployment

Null Hypothesis: D(UN) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-1.772843	0.3914
Test critical values:	1% level		-3.512290	
	5% level		-2.897223	
	10% level		-2.585861	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(UN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 19:04				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UN(-1))	-0.070024	0.039498	-1.772843	0.0801
C	-0.000122	9.12E-05	-1.340238	0.1840
R-squared	0.037802	Mean dependent var		1.79E-05
Adjusted R-squared	0.025775	S.D. dependent var		0.000417
S.E. of regression	0.000412	Akaike info criterion		-12.72712
Sum squared resid	1.36E-05	Schwarz criterion		-12.66842
Log likelihood	523.8121	Hannan-Quinn criter.		-12.70356
F-statistic	3.142971	Durbin-Watson stat		1.941723
Prob(F-statistic)	0.080061			

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Model 1 (none)/at first difference/ unemployment

Null Hypothesis: D(UN) has a unit root					
Exogenous: None					
Lag Length: 0 (Automatic - based on SIC, maxlag=11)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-1.219295	0.2027	
Test critical values:	1% level		-2.593468		
	5% level		-1.944811		
	10% level		-1.614175		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(UN,2)					
Method: Least Squares					
Date: 11/23/13 Time: 19:08					
Sample (adjusted): 2005M03 2011M12					
Included observations: 82 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(UN(-1))	-0.024147	0.019804	-1.219295	0.2263
R-squared	0.016198	Mean dependent var		1.79E-05	
Adjusted R-squared	0.016198	S.D. dependent var		0.000417	
S.E. of regression	0.000414	Akaike info criterion		-12.72931	
Sum squared resid	1.39E-05	Schwarz criterion		-12.69996	
Log likelihood	522.9017	Hannan-Quinn criter.		-12.71753	
Durbin-Watson stat	1.988121				

Model 3 (intercept and trend)/at second difference/ unemployment

Null Hypothesis: D(UN,2) has a unit root					
Exogenous: Constant, Linear Trend					
Lag Length: 0 (Automatic - based on SIC, maxlag=11)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-8.863095	0.0000	
Test critical values:	1% level		-4.075340		
	5% level		-3.466248		
	10% level		-3.159780		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(UN,3)					
Method: Least Squares					
Date: 11/23/13 Time: 19:14					
Sample (adjusted): 2005M04 2011M12					
Included observations: 81 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(UN(-1),2)	-1.003468	0.113219	-8.863095	0.0000
	C	4.95E-05	9.90E-05	0.500104	0.6184
	@TREND("2005M01")	-7.29E-07	2.02E-06	-0.360611	0.7194

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R-squared	0.501772	Mean dependent var	2.39E-18
Adjusted R-squared	0.488997	S.D. dependent var	0.000595
S.E. of regression	0.000425	Akaike info criterion	-12.65272
Sum squared resid	1.41E-05	Schwarz criterion	-12.56403
Log likelihood	515.4351	Hannan-Quinn criter.	-12.61714
F-statistic	39.27736	Durbin-Watson stat	2.000179
Prob(F-statistic)	0.000000		

Model 2 (intercept)/at second difference/ unemployment

Null Hypothesis: D(UN,2) has a unit root					
Exogenous: Constant					
Lag Length: 0 (Automatic - based on SIC, maxlag=11)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-8.904938	0.0000	
Test critical values:	1% level		-3.513344		
	5% level		-2.897678		
	10% level		-2.586103		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(UN,3)					
Method: Least Squares					
Date: 11/23/13 Time: 19:10					
Sample (adjusted): 2005M04 2011M12					
Included observations: 81 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(UN(-1),2)	-1.001882	0.112509	-8.904938	0.0000
	C	1.81E-05	4.70E-05	0.385950	0.7006
R-squared	0.500941	Mean dependent var	2.39E-18		
Adjusted R-squared	0.494624	S.D. dependent var	0.000595		
S.E. of regression	0.000423	Akaike info criterion	-12.67574		
Sum squared resid	1.41E-05	Schwarz criterion	-12.61662		
Log likelihood	515.3676	Hannan-Quinn criter.	-12.65202		
F-statistic	79.29792	Durbin-Watson stat	2.000007		
Prob(F-statistic)	0.000000				

APPENDICES

Model 1 (none)/at second difference/ unemployment:

Null Hypothesis: D(UN,2) has a unit root					
Exogenous: None					
Lag Length: 0 (Automatic - based on SIC, maxlag=11)					
			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-8.944272	0.0000	
Test critical values:	1% level		-2.593824		
	5% level		-1.944862		
	10% level		-1.614145		
*MacKinnon (1996) one-sided p-values.					
Augmented Dickey-Fuller Test Equation					
Dependent Variable: D(UN,3)					
Method: Least Squares					
Date: 11/23/13 Time: 19:15					
Sample (adjusted): 2005M04 2011M12					
Included observations: 81 after adjustments					
	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	D(UN(-1),2)	-1.000000	0.111803	-8.944272	0.0000
R-squared	0.500000	Mean dependent var		2.39E-18	
Adjusted R-squared	0.500000	S.D. dependent var		0.000595	
S.E. of regression	0.000420	Akaike info criterion		-12.69855	
Sum squared resid	1.41E-05	Schwarz criterion		-12.66899	
Log likelihood	515.2913	Hannan-Quinn criter.		-12.68669	
Durbin-Watson stat	2.000000				

Phillips-Perron test

Model3 (intercept and trend)/at level/ entrepreneurship:

Null Hypothesis: UN has a unit root			
Exogenous: Constant			
Bandwidth: 6 (Newey-West automatic) using Bartlett kernel			
		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.093567	0.0017
Test critical values:	1% level	-3.511262	
	5% level	-2.896779	
	10% level	-2.585626	
*MacKinnon (1996) one-sided p-values.			
Residual variance (no correction)			6.73E-07
HAC corrected variance (Bartlett kernel)			3.31E-06
Phillips-Perron Test Equation			
Dependent Variable: D(UN)			
Method: Least Squares			
Date: 11/23/13 Time: 20:48			

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Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.016689	0.001904	-8.765905	0.0000
C	0.000232	0.000270	0.857953	0.3934
R-squared	0.486826	Mean dependent var		-0.001996
Adjusted R-squared	0.480490	S.D. dependent var		0.001153
S.E. of regression	0.000831	Akaike info criterion		-11.32483
Sum squared resid	5.59E-05	Schwarz criterion		-11.26655
Log likelihood	471.9806	Hannan-Quinn criter.		-11.30142
F-statistic	76.84109	Durbin-Watson stat		0.248815
Prob(F-statistic)	0.000000			

Model2 (intercept)/ at level/ entrepreneurship:

Null Hypothesis: EN has a unit root				
Exogenous: Constant				
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			5.325271	1.0000
Test critical values:	1% level		-3.511262	
	5% level		-2.896779	
	10% level		-2.585626	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				259.0221
HAC corrected variance (Bartlett kernel)				466.5943
Phillips-Perron Test Equation				
Dependent Variable: D(EN)				
Method: Least Squares				
Date: 11/23/13 Time: 20:47				
Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EN(-1)	0.040493	0.005525	7.328839	0.0000
C	0.455129	2.794450	0.162869	0.8710
R-squared	0.398717	Mean dependent var		16.19277
Adjusted R-squared	0.391293	S.D. dependent var		20.88146
S.E. of regression	16.29164	Akaike info criterion		8.442983
Sum squared resid	21498.83	Schwarz criterion		8.501268
Log likelihood	-348.3838	Hannan-Quinn criter.		8.466399
F-statistic	53.71188	Durbin-Watson stat		0.713896
Prob(F-statistic)	0.000000			

APPENDICES

Model1 (none)/ at level/ entrepreneurship:

Null Hypothesis: EN has a unit root				
Exogenous: None				
Bandwidth: 3 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			8.624592	1.0000
Test critical values:	1% level		-2.593121	
	5% level		-1.944762	
	10% level		-1.614204	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				259.1069
HAC corrected variance (Bartlett kernel)				468.7784
Phillips-Perron Test Equation				
Dependent Variable: D(EN)				
Method: Least Squares				
Date: 11/23/13 Time: 21:18				
Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EN(-1)	0.041185	0.003515	11.71798	0.0000
R-squared	0.398520	Mean dependent var		16.19277
Adjusted R-squared	0.398520	S.D. dependent var		20.88146
S.E. of regression	16.19465	Akaike info criterion		8.419214
Sum squared resid	21505.87	Schwarz criterion		8.448357
Log likelihood	-348.3974	Hannan-Quinn criter.		8.430922
Durbin-Watson stat	0.713600			

Model3 (intercept and trend)/at 1st difference/ entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: Constant, Linear Trend				
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-0.631281	0.9743
Test critical values:	1% level		-4.073859	
	5% level		-3.465548	
	10% level		-3.159372	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				178.3814
HAC corrected variance (Bartlett kernel)				168.0574
Phillips-Perron Test Equation				

APPENDICES

Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 22:02				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	-0.107670	0.120513	-0.893428	0.3743
C	-2.727861	3.094496	-0.881520	0.3807
@TREND("2005M01")	0.142036	0.078472	1.810014	0.0741
R-squared	0.040337	Mean dependent var		1.731707
Adjusted R-squared	0.016042	S.D. dependent var		13.71765
S.E. of regression	13.60718	Akaike info criterion		8.094972
Sum squared resid	14627.28	Schwarz criterion		8.183023
Log likelihood	-328.8938	Hannan-Quinn criter.		8.130323
F-statistic	1.660281	Durbin-Watson stat		2.111189
Prob(F-statistic)	0.196649			

Model2 (intercept)/at 1st difference/ entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: Constant				
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			1.076025	0.9970
Test critical values:	1% level		-3.512290	
	5% level		-2.897223	
	10% level		-2.585861	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				185.7790
HAC corrected variance (Bartlett kernel)				150.4873
Phillips-Perron Test Equation				
Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 21:21				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	0.020546	0.098873	0.207806	0.8359
C	1.430777	2.102220	0.680603	0.4981
R-squared	0.000539	Mean dependent var		1.731707
Adjusted R-squared	-0.011954	S.D. dependent var		13.71765
S.E. of regression	13.79940	Akaike info criterion		8.111215
Sum squared resid	15233.87	Schwarz criterion		8.169916
Log likelihood	-330.5598	Hannan-Quinn criter.		8.134782
F-statistic	0.043183	Durbin-Watson stat		2.292566
Prob(F-statistic)	0.835909			

APPENDICES

Model1 (none)/at 1st difference/ entrepreneurship

Null Hypothesis: D(EN) has a unit root				
Exogenous: None				
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			0.936548	0.9059
Test critical values:	1% level		-2.593468	
	5% level		-1.944811	
	10% level		-1.614175	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				186.8547
HAC corrected variance (Bartlett kernel)				186.8547
Phillips-Perron Test Equation				
Dependent Variable: D(EN,2)				
Method: Least Squares				
Date: 11/23/13 Time: 22:05				
Sample (adjusted): 2005M03 2011M12				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1))	0.066902	0.071435	0.936548	0.3518
R-squared	-0.005248	Mean dependent var		1.731707
Adjusted R-squared	-0.005248	S.D. dependent var		13.71765
S.E. of regression	13.75360	Akaike info criterion		8.092598
Sum squared resid	15322.08	Schwarz criterion		8.121949
Log likelihood	-330.7965	Hannan-Quinn criter.		8.104382
Durbin-Watson stat	2.381816			

Model3 (intercept and trend)/at 2nd difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: Constant, Linear Trend				
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-10.50793	0.0000
Test critical values:	1% level		-4.075340	
	5% level		-3.466248	
	10% level		-3.159780	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				174.5117
HAC corrected variance (Bartlett kernel)				176.8024
Phillips-Perron Test Equation				

APPENDICES

Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 22:11				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1),2)	-1.216296	0.115658	-10.51634	0.0000
C	-3.047060	3.137521	-0.971168	0.3345
@TREND("2005M01")	0.117966	0.064472	1.829708	0.0711
R-squared	0.587024	Mean dependent var		0.493827
Adjusted R-squared	0.576435	S.D. dependent var		20.68461
S.E. of regression	13.46193	Akaike info criterion		8.073943
Sum squared resid	14135.45	Schwarz criterion		8.162626
Log likelihood	-323.9947	Hannan-Quinn criter.		8.109524
F-statistic	55.43647	Durbin-Watson stat		1.863323
Prob(F-statistic)	0.000000			

Model2 (intercept)/at 2nd difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: Constant				
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-10.21165	0.0000
Test critical values:	1% level		-3.513344	
	5% level		-2.897678	
	10% level		-2.586103	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				182.0019
HAC corrected variance (Bartlett kernel)				185.0048
Phillips-Perron Test Equation				
Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 22:09				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1),2)	-1.190036	0.116457	-10.21870	0.0000
C	1.992391	1.524902	1.306570	0.1951
R-squared	0.569299	Mean dependent var		0.493827
Adjusted R-squared	0.563847	S.D. dependent var		20.68461
S.E. of regression	13.66051	Akaike info criterion		8.091277
Sum squared resid	14742.15	Schwarz criterion		8.150399
Log likelihood	-325.6967	Hannan-Quinn criter.		8.114997
F-statistic	104.4218	Durbin-Watson stat		1.840699
Prob(F-statistic)	0.000000			

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Model1 (none)/at 2nd difference/ entrepreneurship

Null Hypothesis: D(EN,2) has a unit root				
Exogenous: None				
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-10.07413	0.0000
Test critical values:	1% level		-2.593824	
	5% level		-1.944862	
	10% level		-1.614145	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				185.9348
HAC corrected variance (Bartlett kernel)				202.1163
Phillips-Perron Test Equation				
Dependent Variable: D(EN,3)				
Method: Least Squares				
Date: 11/23/13 Time: 22:16				
Sample (adjusted): 2005M04 2011M12				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EN(-1),2)	-1.175403	0.116428	-10.09552	0.0000
R-squared	0.559992	Mean dependent var		0.493827
Adjusted R-squared	0.559992	S.D. dependent var		20.68461
S.E. of regression	13.72075	Akaike info criterion		8.087964
Sum squared resid	15060.72	Schwarz criterion		8.117526
Log likelihood	-326.5626	Hannan-Quinn criter.		8.099825
Durbin-Watson stat	1.832273			

Model3 (intercept and trend)/at level/ unemployment:

Null Hypothesis: UN has a unit root				
Exogenous: Constant, Linear Trend				
Bandwidth: 6 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-1.305192	0.8798
Test critical values:	1% level		-4.072415	
	5% level		-3.464865	
	10% level		-3.158974	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				6.71E-07
HAC corrected variance (Bartlett kernel)				3.28E-06

APPENDICES

Phillips-Perron Test Equation				
Dependent Variable: D(UN)				
Method: Least Squares				
Date: 11/23/13 Time: 21:12				
Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.012944	0.007995	-1.619040	0.1094
C	-0.000592	0.001729	-0.342464	0.7329
@TREND("2005M01")	7.71E-06	1.60E-05	0.482433	0.6308
R-squared	0.488314	Mean dependent var		-0.001996
Adjusted R-squared	0.475522	S.D. dependent var		0.001153
S.E. of regression	0.000835	Akaike info criterion		-11.30364
Sum squared resid	5.57E-05	Schwarz criterion		-11.21621
Log likelihood	472.1012	Hannan-Quinn criter.		-11.26852
F-statistic	38.17298	Durbin-Watson stat		0.250356
Prob(F-statistic)	0.000000			

Model2 (intercept)/at level/ unemployment:

Null Hypothesis: UN has a unit root				
Exogenous: Constant				
Bandwidth: 6 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-4.093567	0.0017
Test critical values:	1% level		-3.511262	
	5% level		-2.896779	
	10% level		-2.585626	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				6.73E-07
HAC corrected variance (Bartlett kernel)				3.31E-06
Phillips-Perron Test Equation				
Dependent Variable: D(UN)				
Method: Least Squares				
Date: 11/23/13 Time: 20:48				
Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.016689	0.001904	-8.765905	0.0000
C	0.000232	0.000270	0.857953	0.3934
R-squared	0.486826	Mean dependent var		-0.001996
Adjusted R-squared	0.480490	S.D. dependent var		0.001153
S.E. of regression	0.000831	Akaike info criterion		-11.32483
Sum squared resid	5.59E-05	Schwarz criterion		-11.26655
Log likelihood	471.9806	Hannan-Quinn criter.		-11.30142
F-statistic	76.84109	Durbin-Watson stat		0.248815

APPENDICES

Prob(F-statistic)	0.000000
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Model1 (none)/at level/unemployment

Null Hypothesis: UN has a unit root				
Exogenous: None				
Bandwidth: 6 (Newey-West automatic) using Bartlett kernel				
			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-10.63896	0.0000
Test critical values:	1% level		-2.593121	
	5% level		-1.944762	
	10% level		-1.614204	
*MacKinnon (1996) one-sided p-values.				
Residual variance (no correction)				6.80E-07
HAC corrected variance (Bartlett kernel)				3.38E-06
Phillips-Perron Test Equation				
Dependent Variable: D(UN)				
Method: Least Squares				
Date: 11/23/13 Time: 21:19				
Sample (adjusted): 2005M02 2011M12				
Included observations: 83 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN(-1)	-0.015152	0.000642	-23.60598	0.0000
R-squared	0.482162	Mean dependent var		-0.001996
Adjusted R-squared	0.482162	S.D. dependent var		0.001153
S.E. of regression	0.000829	Akaike info criterion		-11.33988
Sum squared resid	5.64E-05	Schwarz criterion		-11.31074
Log likelihood	471.6052	Hannan-Quinn criter.		-11.32818
Durbin-Watson stat	0.246770			

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المخلص: البطالة من الظواهر الخطيرة التي مست كل من الدول المتطورة وفي طور التطور مثل الجزائر، ومن بين المفاتيح لتخفيض البطالة في العالم نجد ان المقاوالاتية تلعب دور مهم في تخفيض نسبة البطالة ودفع عجلة النمو والتطور، ولهذا فمن الضروري على الحكومة الجزائرية من تدعيم المقاوالاتية لتخفيض نسبة البطالة. لهذا، تنبتهت الجزائر لأهميتها وقامت بوضع عدة برامج لتقليص نسبة البطالة من بينها نجد برنامج صندوق التامين ضد البطالة الذي تحت من خلال البطالين بان يصبحوا مقولين وخالقين لفرص العمل، في الدراسة الاستطلاعية وجدنا ان المقاوالاتية عن طريق الصندوق تساهم بنسبة ضئيلة في خلق مناصب الشغل و لكن باستعمال النموذج القياسي وجدنا انه لا توجد علاقة في بين المدى الطويل بين المقاوالاتية عن طريق صندوق التامين على البطالة ونسب البطالة في تلمسان

الكلمات المفتاحية: المقاوالاتية، المقاول، البطالة، الجزائر، تلمسان، الصندوق الوطني للتامين على البطالة،

الانحدار الذاتي

Abstract: The unemployment is from the dangerous phenomenon that it touch the developed and developing countries as Algeria. From the different keys to reduce unemployment in the world, we find that entrepreneurship from the important keys in the first to alleviate unemployment and push the economic growth. Therefore, it is necessary for the Algerian government to enhance the entrepreneurship to reduce unemployment. Therefore, it takes different policies to curb unemployment. From these policies, there is the CNAC mechanism who push unemployed to be job creators by enhancing them and helping them to be entrepreneur. With the exploratory study, we find that they push in creating employment. However, in the econometric study, we find by using VAR model that in the long way there is not any cointegration between the decrease in the unemployment and the growth in the entrepreneurship.

Keywords : entrepreneurship, entrepreneurs, unemployment, Algeria, Tlemcen, CNAC, VAR.

Résumé : le chômage est un phénomène dangereux qui est touché les payé développé et encore les payé en cours de développement comme l'Algérie. A travers les diffèrent clés qui contribue à la réduction de chômage, on trouve que l'entrepreneuriat et un très important clé pour réduire le chômage et de pousser le développement économiques. Donc, il est très nécessairement pour le gouvernement Algérien pour augmenter l'entrepreneuriat à cause de réduire le chômage. Dans ce cas, il prit diffèrent politiques pour réduire le chômage comme CNAC mechanism qui encourager et aider les chômeurs pour être entrepreneur et créateur d'emploi. Dans l'étude exploratoire, nous avons trouvé que l'entrepreneuriat à travers CNAC aider à la création d'emploi. Par contre dans l'étude économétrique, nous avons utilisé le model VAR, il n y as aucun cointegration a long terme entre le chômage et le développement de l'entrepreneuriat à travers CNAC.

Mots Clés : entrepreneuriat, entrepreneur, le chômage, Algérie, Tlemcen, CNAC, VAR