

Does female entrepreneurship add in economic growth?

Evidence from twenty-five countries

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Abstract

Recent researches in the field of entrepreneurship give a renewed interest in the role of women entrepreneurship in the economic development. This document aims to draw up an analysis of the effect of female entrepreneurship on economic growth using a panel data over the period 2000-2014 for a sample of twenty-five (developed and developing) countries. Results show that female entrepreneurship has a significant negative effect but also entrepreneurship is considered the channel, it has an indirect impact on economic growth even business creation has been a real engine of economic development; these are seen as a means to generate employment opportunities, income distribution, wealth creation and poverty reduction. Some recommendations are presented, in order to support of government initiatives and the effect on women-owned business performance which are also important.

Keywords: Female entrepreneurship; economic growth

L'entrepreneuriat féminin contribue-t-il à la croissance économique?

cas de vingt-cinq pays

Résumé

Les recherches récentes dans le domaine de l'entrepreneuriat ont suscité un regain d'intérêt pour le rôle de l'entrepreneuriat féminin dans le développement économique. Ce document vise à analyser l'effet de l'entrepreneuriat féminin sur la croissance économique en utilisant un panel de données sur la période 2000-2014 pour un échantillon de vingt-cinq pays (développés et en développement). Les résultats montrent que l'entrepreneuriat féminin a un effet négatif important mais que l'entrepreneuriat est également considéré comme un canal, il a un impact indirect sur la croissance économique même si la création d'entreprise a été un véritable moteur du développement économique. ceux-ci sont considérés comme un moyen de générer des opportunités d'emploi, la distribution des revenus, la création de richesse et la réduction de la pauvreté. Certaines recommandations sont présentées afin de soutenir les initiatives gouvernementales et leurs effets sur la performance des entreprises appartenant à des femmes, qui sont également importants.

Mots-clés: entrepreneuriat féminin; croissance économique

1. Introduction

Recently, women and entrepreneurship have become an important research domain (Nissan et al, 2012; Jennings and Brush, 2013; Carrasco, 2014; Welsh et al, 2016). In fact, the female entrepreneurship has become a central topic in entrepreneurship research, and the creation of companies has become a real engine of economic development, it is now a fundamental element of economic and social development as a key factor in promoting economic growth and the fight against insecurity and poverty. Indeed, the entrepreneurship is regarded as a major determinant of economic performance; they particularly with regard to progress due to its structural role innovation and dynamism that impulse in all economies are well established.

The public authorities admit every day there is an effective instrument: To create jobs, increase productivity and competitiveness, but also the fight against poverty and achieve social objectives, in that it helps some segments of the population to take charge. Moreover, one cannot imagine a modern economy without the creation of the enterprise. Indeed the entrepreneur creates the business, and the business creates wealth and employment.

Faced with rising unemployment rates in recent years and following the difficulties to access the labor market, some young graduates of higher education, choose to start their own business. Nowadays, female entrepreneurship has become a challenge for many countries. Women's capacity to generate economic growth and jobs justify ample the interest they generate. Although their contribution to economic development has only recently been recognized and valued, women have always played an important economic role in our societies. However, the business creation rate by young graduates is very low. The latest research conducted by the International Survey on Collegiate Entrepreneurship showed that less than 1% of young women graduates of higher education create a business. This problem is also similar in many countries.

Despite these apparently important roles in the economic activity, mainstream economic research generally ignored entrepreneurship and new venture creation for half a century (Barreto, 1989).

By providing evidence that encourage of female entrepreneurship stimulates entrepreneurship development and consequently the economic growth, our findings contribute to the literature that has been attempting to explain the links between economic growth and entrepreneurship development in economic outcomes. In fact, the results of this study contribute to the entrepreneurship literature and provide practical implications in two ways: first, by linking the literature on economic development and female entrepreneurship and highlighting how those two streams might benefit from addressing their common interests; second, by emphasizing the potential of designing public policies about gender-specific to stimulate entrepreneurial activity. The relationship between female entrepreneurship and growth in the selected countries is complex, and there is no conclusive theoretical and empirical evidence on the impact of female entrepreneurship on economic growth in these countries.

This article aims to present through the literature, the importance and role of women entrepreneurship in the economic development. In fact we try to detect the relationship between

women entrepreneurship and economic growth using a panel data over the period 2000-2014 for a sample of twenty-five countries.

The remainder of the paper is organized as follows. Section 2 provides a literature review on the entrepreneurship and economic development. Section 3 develops a theoretical framework for analyzing the role of women entrepreneurs in the social and economic development.

Section 4 describes data and econometric methodologies used in the paper.

Section 5 presents and discusses results in detail and Section 6 concludes with policy implications.

2. Overview on the entrepreneurship and economic growth

Starting by the seminal work of [Solow \(1956\)](#), he explained the economic growth by the increase factor labor and capital input, that is to say, the production factors. Actually the increase in production allows us to increased population and increased investment that helps explain a significant share of growth. The Solow model, it is a model of neoclassical economics it is based on the assumption of economic theory of entrepreneurship, generally the economy is based on production factors combinations (capital, labor). Entrepreneurship is explained by the factors of production; on the other hand a good allocation of resources more entrepreneurial associated more to the increase in production. Today, recent work on economic growth emphasizes the integration of entrepreneurship in the economic growth model.

[Kritikos \(2015\)](#) noted that the activities of entrepreneurs are considered as an important driver of economic growth. In addition, entrepreneurs generate employment opportunities not only for themselves but also for others in order to create the jobs. Beyond the job creation, entrepreneurial activities may influence a country's overall economic performance in several ways; Firstly, the entrepreneurs enter markets with new products, innovation, technologies, or production processes; Secondly, the creation of new organism increase productivity and competition; and thirdly the new venture creation accelerate structural change. Without new venture creation, economies may stagnate.

According to [Acs \(2006\)](#), entrepreneurs create new businesses, consequently new businesses in turn create jobs, intensify competition, and may even increase productivity through technological change. For [Acs \(2006\)](#), High measured levels of entrepreneurship and new venture creation will thus translate directly into high levels of economic growth.

[Koo and Kim \(2009\)](#) reported on the research and development (R&D) subject, they affirmed that this context should be re-studied and re-discuss more broadly including entrepreneurship, university research, human capital, the physical capital. On the other hand, there are many studies that examined the direct and indirect relationship between entrepreneurship and economic growth.

The three variables of economic growth that proposed by [Van Stel and Storey \(2004\)](#) are: the rate of entrepreneurship, the index of global competitiveness and performance per capita.

Indeed, following the use of Model database Global Entrepreneurship Monitor (GEM) with different periods it can be concluded that entrepreneurial activity has a positive effect on

economic growth, and jobs [Wong et al, \(2005\)](#). In this study, the entrepreneurship, the innovation and the economic growth have been used on the GEM database (2002) for 37 countries bear a Cobb-Douglas production function to explain how entrepreneurship and technological innovation considered as key factors for growth? They concluded that rapid growth of new companies generates job creation in small and medium enterprises in developed countries. Similarly, [Eakin and Kao \(2003\)](#) affirmed that entrepreneurship positively affects economic growth as measured by the entrance and the kinds of companies.

Many studies showed that women's involvement in entrepreneurship is an element essential for the growth of their countries. In fact, we describe some studies to estimate the impact of female entrepreneurship on economic growth. For example, [Carter et al. \(2001\)](#) indicated that women represent 26 percent of total 3.2 million self-employed workers (n = 824 659) for the UK. [ITPS \(2002\)](#) concluded that women are creating 28 percent of new businesses and employ an average of 0.6 full-time employees in Sweden (against 1.7 for men).

In Germany, [Kay et al. \(2003\)](#) showed that there is a total of 1.03 million of owner companies by a woman. Businesses owned by women and owner-managed with a turnover of at least 16,620 euros (n = 522 000) represent 18 percent of the total in that category and employ million employees. These companies realize a total turnover of 232 billion Euros, or about 6 percent of the total and 11 percent of that generated by businesses run by their owner.

[Kpelai and Tersoo \(2013\)](#) examined the impact of women entrepreneurs on economic growth in Benue State, North Central Nigeria. The results revealed that the operations of women entrepreneurs have not significantly impacted on the growth of Benue State economy due to the numerous operational challenges faced by them over the years. It was also observed that a weak positive relationship exist between public policy support and women entrepreneurs in Benue State. This implies that, government programmes and other support services have not helped them surmount the inhibiting operational challenges. In order to help the women entrepreneurs overcome their operational hardships in Benue State, it is recommended among others: capacity building programmes on entrepreneurship education, provision of effective and realistic support services for women entrepreneurs, promoting of gender neutral environment in all policy measures to help women entrepreneurs' impact significantly on economic growth.

The role of Women's in economic development is commonly admitted. But in many countries, women's economic activities are still an extension of historical domestic occupation. [Mauconduit et al. \(2013\)](#) examined the Haitian women entrepreneurial situation and show that women empowerment currently claimed by many actors is more romantic than economically pragmatic since women stay in poverty and undervalued business. In Serbia,

[Kalini et al. \(2014\)](#) show that gender differences contribute to the most successful business of enterprises and that female entrepreneurship is increasingly recognized as underdeveloped and untapped potential for economic growth. In addition, the statistical data show that the share of female enterprises in the total number of SMEs is about 26%. Their results indicate that the women still prefer well-paid jobs to their own businesses, a key motive of women for setting up their own business is a desire for independence, and their major constraint is a lack of material resources.

A recent work by [Lock and Lawton Smith \(2016\)](#), have explored the challenges facing female entrepreneurs in Kenya. These authors have founded that female entrepreneurs in Kenya face far fewer barriers to starting micro–enterprises now than ever before and that it is proving to be a widely successful model for them to lift themselves and their families out of poverty. The female entrepreneurship to have a greater impact on economic growth within Kenya, the country needs to introduce more effective policies, regulation of the informal sector and further support to women entrepreneurs, for example through business training, mentoring and financial support.

3. Female entrepreneurship for social economic development

Some studies showed that women's involvement in entrepreneurship is an element explaining and significant proportion of the growth differential between countries ([Carrasco, 2014](#); [Welsh et al, 2016](#)). A country not making maximum use its entrepreneurial potential would not achieve its full growth potential. In the current economic situation, it is of utmost importance to mobilize all the talents and it is no longer subject to waste skills and economic potential because of outdated perceptions of the role of women and men and their ability to lead. Today, women represent 46% of the workforce while they represent only 28% on average of entrepreneurs in the TPE/PME represent 48% of the United States, to deal with this situation, therefore, must catch up this delay and support women in their entrepreneurial approach. Further, their number is to contribute to growth and job creation". Female entrepreneurship is developing everywhere, but with disparities from one country to another.

Similarly women's entrepreneurship during the last twenty years, has taken an important growing in most industrialized countries but also developing countries and also spec features (micro-enterprises).

This positive measure remains a large disparity between countries. For example, in 2006 for Belgium the index is (2.73), Germany is (4.2), France is (4.4), the Netherlands is (5.4) but look more closely TEA women is typically lower than: *"According to the GEM 2006 Report on Women and Entrepreneurship, in the EU 15 Belgium, France, Germany and Italy have the lowest rate of female business owners (between 1.91%)"*

If the United States or the Canada, for example, are leaders, in Europe, the situations are quite diverse: In France, the general context of entrepreneurship is evolving policy initiatives to promote entrepreneurship have improved tax regimes and social charges while simplifying the transition from unemployment to self-employment. Thus, the dynamic created that now the France among of the countries with the most women in the head of companies and small businesses with 36% of positions held by women in 2010, with a European average of 33%¹.

Depending on the country and the OECD report on female entrepreneurship, the proportion of women entrepreneurs varies between 15% and 35%², and on average is 30%. From where women entrepreneurship appears as a source of economic growth, but it is still insufficiently exploited in several countries.

¹ European survey of Eurostat Labour Force, 2010.

² OECD report, The Women's Entrepreneurship: issues and actions to be taken, in 2004

Today, the entrepreneurship has emerged as a specific solution for women that due the evolution of the labor market have prompted a significant number of women to create their jobs, especially to successfully balance between work and life family but also to satisfy personal ambitions or find a project that makes "sense"³. The women entrepreneurs create jobs for themselves and for others, sometimes to try to answer questions that would not meet employee status (schedules, availability screw opinion of their families) while bringing to the society, because of their specificity, different solutions for the management, organization, and processing of business problems.

They generally turn to small structures and more often to service sectors such as education, personal services and, in a pregnant way towards social entrepreneurship. However, these sectors are often considered less essential to the development and economic growth as high-tech or processing activities and therefore less valued. Furthermore, studies show that with equal commercial opportunities, women have more difficulty obtaining financing than men and therefore more difficult to develop their projects.

The major fears of women's would be the risk of bankruptcy which represents 27.9% of the salary uncertainty is 22.7% and the risk of losing his property is (17.8%). In other words in France, 34% of men and 27%⁴ of women expressed their desire to create or take over a business; despite an increase in this rate in women past two years (15% in 2007) a gap remains between men and women. Since 2003, women represent 33% of business creation in Europe⁵, the US, thanks to 30 years of determined action, half of the new businesses that are worn by women. Female entrepreneurship plays an important economic role and all studies considered indicate that its weight is growing. However, these studies are relatively recent, we cannot accurately predict trends and pace of long-term changes such as watches many studies the impact of female entrepreneurship on the way to economic growth Examples women entrepreneurs are more than 821,000 and their combined annual economic contribution is more than 18.1 billion Canadian dollars (Canadian Statistics in 2003).

In the United States, according to the latest analysis from the US Bureau Supposed, enterprises owned and managed by women represent 28% of a total of 23 million and employ 9.2 million people is 9%. In Germany, there is a total of 1.03 million business owner having to a woman. Businesses owned by women and run by the owner who has a turnover of at least 16,620 euros, represent 18% of all searches and employ 2 million employees (Kay et al., 2003).

The percentage of women entrepreneurs and economic Weight of female entrepreneurship are similar in both countries. In transition economies and developing countries, all market inefficiencies and infrastructure failures are entrepreneurial opportunities and therefore are more easily identified by those involved in economic activity.

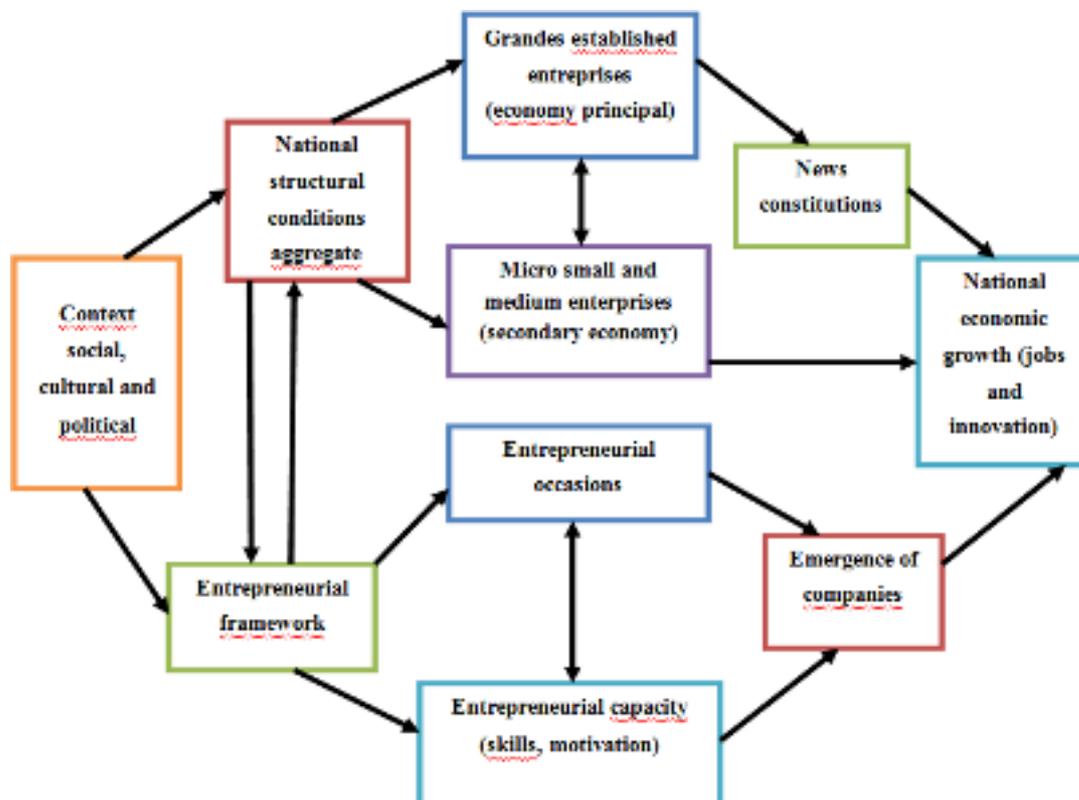
³ Article "Canada, women bosses are very trendy," The contractor No. 240 -December 2005.

⁴ Barometer "the French and the business creation" done by the network by CCI- Undertake in France and the FIGG on a sample of 957 people in January 2009.

⁵ Eurostat 2010, EU 27, "business leaders", 31% in 2003.

Research on social ventures creation, [Datta and Gailey \(2012\)](#) affirmed that social entrepreneurship is a key contributor to the creation and diversification of entrepreneurial activity, emancipation and empowerment of women, and therefore lead to economic growth.

Figure 1: the conceptual model of GEM



Source: Global Report of GEM (2005, p.9)

However, and according to [Huysentruyt \(2014\)](#), the entrepreneurship development studies suggest that more research and investigations are needed to understand how women who engage in social entrepreneurial activities support local development in the face of community traditions and social norms. In an economic environment extremely changing and with difficulty predictable, small business arouses the interest permanent policies, economists and sociologists to the extent that it is a source of jobs, innovation, wealth and prosperity. In this section, we presented the economic and social role of the act undertaken on economic growth.

4. Empirical analysis

4.1. Specification of the econometric model

In our study, we are going to test empirically using a Solow growth model augmented by human capital, the relationship between entrepreneurship and economic growth. The Solow model is the main model of the theory of economic growth, which develops by Robert Solow; it is a model

of neoclassical economics. Our variables were taken during the period 2000 to 2014, the statistics from the INS and the World Bank. Our model, which will be estimated is presented by the following equation:

$$Y_{it} = \beta_0 + \beta_1 \text{lgdp-fit} + \beta_2 \text{EFit} + \beta_3 \text{KHit} + \beta_4 \text{QRHit} + \beta_5 \text{INVit} + \beta_6 \text{EENTREPit} + \beta_7 \text{DFit} + \epsilon_{it}$$

Where i and t denoting the country and the time, respectively; (For $i = 1 \dots 25$; $t = 2000 \dots 2014$). With α represent the individual specific effect, " $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ " are parameters to be estimated in this model and " ϵ_{it} " is the error term.

4.2. Variables and sources

The dependent variable: In our empirical analysis, we use the GDP growth rate per capita as the dependent variable (Y).

The independent variables: The level of real GDP per capita in purchasing power parity (GDP), Women's Entrepreneurship (EF), human capital (KH), Human Resources Quality (QRH), Investment (INV), Entrepreneurship (EENTREP) The financial development (FD).

-Female entrepreneurship: The female entrepreneurship is measured by self-employment; the data are from the World Bank database and the National Institute of Statistics and Economic Studies (Population in employment by sex and activity sector in% women Men Total Share of women). The self-employment is considered today as the most frequently used indicator for entrepreneurship in the literature that addresses a number of questions, such as the level of entrepreneurship in the country, the link between the entrepreneurship and growth and the relationship between taxation and entrepreneurship. The main reason to use self-employment as an indicator of entrepreneurship is a convenience feature: all developed countries provide data on self-employment, facilitating analysis across countries and across time.

[Acs and Armington \(2004\)](#) presented employment the growth and entrepreneurial activity in cities, *Regional Studies* 38, 911-927. Is among the first authors who have cited the variable of self-employment as entrepreneurship indicator yet several other proxies may be applied depending on the question that is posed. If, on the other hand, the innovative aspect of entrepreneurship is emphasized, a better proxy involves innovative companies rather than self-employment or particular size businesses.

Compare and analyze the self-employment data is difficult. First, there is no consensus definition of self-employment. Second, there may be differences in data coverage, which leads some industries to be underrepresented and others can be totally excluded. Third, the data can be collected in various ways, from surveys or registers. Fourth, how to classify people can differ. In surveys, ranking in the appropriate group can be performed by either the interviewer or the respondent. The workers autonomous can be broadly defined as employed persons who are not employees. A separate definition could be based on the economic risk and the type of authority concerned.

A sociological definition of self-employed can include ownership of production means and autonomy in the work process. Two types of quantitative empirical studies can be

distinguished. One type of studies uses explanatory models based on a set of assumptions derived theoretical considerations about the factors that influence self-employment decisions.

Other studies develop structural models explaining self-employment. Structural models are based on the rational use that self-employment occurs if the expected self-employment returns exceed those paid labor.

-The human capital: The human capital is measured by the average number of secondary years of education of the population of 15 and over. The passage to secondary school is the number of students undertaking their first year of high school during a year as a percentage of students enrolled in the last grade the previous year. The data are taken the Institute of Statistics of the United Nations Educational, Scientific and Cultural Organization (UNESCO). (Sources: development indicators in the world).

-Quality of human resource: The quality of human resources, measured by the gross enrollment rate "inscription in school, higher education, girl % Gross" is the ratio of total enrollment, regardless of age, and the population of the age group that officially corresponds to the level of education.

The data are from the World Bank database (the indicator of development in the world).

[Davidsson and Hänig \(2003\)](#) and [Levie and Autio \(2008\)](#), is among the authors who have widely accepted that entrepreneurs with an advanced degree would be more able and willing to start and generate high-growth enterprises.

Physical capital: The physical capital is measured by gross investment; the data are from the World Bank database (World Development Indicators in the world). The gross fixed capital formation (gross domestic fixed investment) includes land improvements (fences, ditches, drains, etc.), plants, machinery and equipment purchases, construction of roads, paths iron etc. including schools, offices, hospitals, private residential units and commercial and industrial buildings. According to the 1993 System of National Accounts, net acquisitions of high-value goods are also part of capital formation ([Zolàn et al. 2014](#)).

- Entrepreneurship: Entrepreneurship is measured by the proportion of seats held by women in national parliament; the data are from the World Bank database (development index in the world). Several authors such as [Acs et al \(2012\)](#) and [Audretsch \(2007\)](#), focus the importance of an institutional framework to show how entrepreneurial activity is configured in each location, which confirmed [Bjornskov and Foss \(2013\)](#), [Nissan and Al \(2011\)](#), which are widely believed that institutions affect economic growth especially on formal institutions such as procedures or the time needed to create a new business.

-Financial development: The financial development is measured by the annual growth rate in money and quasi-money. Money and quasi money comprise the sum of currency outside banks, demand deposits other than those of the central government, and fixed term deposits, savings and foreign currency of resident sectors other than government central. This definition is frequently called M2; it corresponds to lines 34 and 35 of the International Financial Statistics (IFS) of the International Monetary Fund (IMF). The change in the money supply is measured as the difference between the year-end total and the level of M2 in the previous year. The data are from the World

Bank (International Monetary Fund, International Financial Statistics and data files, Sources Development Indicators in the world).

4.3. Descriptive Analysis and correlation matrix

We note that the number of observations for the different variables in our model is not the same; this is explained by the number of missing data for key variables selected (**Table 1**).

The minimum and maximum values allow us to detect the existence of possible outliers, average, we see that GDP is 4.435, women's self-employment is 45,725, human capital is 60,133, the quality of human resource 33676, physical capital, which represents the gross investment is on average 33,676, entrepreneurship is measured by the proportion of seats held by women is on average 17 223 and finally the financial development has on average 14,650.

We are performing the analysis of the correlation between the variables in **Table 2**. We note in the following results, as the highest correlation coefficients (0.7044) between the indicator of economic growth (GDP) and of the quality of human resource that is say (enrollment in school, higher education). Similarly, there is a strong negative correlation between economic growth and women's self-employment (women's entrepreneurship). There is a strong positive correlation between economic growth and human capital (education level of women aged and over). In other words, there is a weak negative correlation between financial development and economic growth.

Table 1: Descriptive Analysis

Variables	Observation	Means	Std. Dev.	Min	Max
GDP	375	4.435997	0.4685822	3.450483	5.038676
Female entrepreneurship	375	45.72507	18.86153	11.9	80.7
Human capital	315	60.13398	24.32506	8.05798	97.44054
Quality of human resources	374	33.67601	26.00194	.82529	96.3224
Physical capital	375	23.35393	8.403922	2.918034	59.72307
Entrepreneurship	375	17.2232	10.97168	0.6	44.5
Financial development	315	14.65098	13.23035	-25.34348	121.9241

Table 2: Analysis of correlation between variables

	GDP	Female entrepreneurship	Human capital	Quality of human resources	Physical capital	Entrepreneurship	Financial development
GDP	1.0000						
Female entrepreneurship	-0.7463	1.0000					
Human capital	0.6361	-0.2435	1.0000				
Quality of human resources	0.7044	0.3239	0.5546	1.0000			
Physical capital	-0.1117	-0.0087	-0.0596	-0.0063	1.0000		
Entrepreneurship	0.2079	0.0048	0.4722	0.0019	0.1489	1.0000	
Financial development	-0.0553	-0.0674	-0.0781	-0.1298	-0.0384	-0.1088	1.0000

5. The estimation results of the panel data

In our study, we have a panel database to 25 countries (developed and developing), over a period of 2000- 2014 (14 years), is therefore 269 observations.

Dependent variable:	POLS	FE	RE
GDP per capita (Yt)			
Female entrepreneurship	-0.0116981 (0.000)***	-0.0161978 (0.000)***	-0.0142269 (0.000)***
Human capital	0.0036832 (0.000)***	0.0040007 (0.000)***	0.0045659 (0.000)***
Quality of human resources	0.0097119 (0.000)***	0.0031122 (0.000)***	0.0033514 (0.000)***
Physical capital	-0.0055075 (0.000)***	0.0019229 (0.012)**	0.00157 (0.041)**
Entrepreneurship	0.0058408 (0.000)***	0.001268 (0.130)	0.0009893 (0.233)
Financial development	-0.0005886 (0.471)	0.0004655 (0.227)	0.0004829 (0.217)
Constant	4.39843 (0.000)***	4.577696 (0.000)***	4.46926 (0.000)***
Observations	269	269	269
Number of countries	25	25	25
R2	0.8801	0.3818	0.8089
Fisher		81,49 (0.000)***	
Hausman test			6,69 0,3502

Notes: ***, **, * Significance at the 1%, 5% and 10% respectively.

The results show that the specification test of Fisher, allows us to arbitrate the choice between a Pooled model and a specific effect model, it allows us to decide whether we estimated our on model panel data or the estimator on the model a country by country. The statistics Fisher: $F(17.245) = 81.49$; $(\text{Prob} > F = 0.0000 < 5\%)$, so it is advisable to estimate our model by panel data. Also, the test of Hausman will be the best referee to fix our choice of model (fixed effect or composed errors). $R^2 = 88\%$, the exogenous variables (female entrepreneurship, human capital, HR Quality, investment, entrepreneurship and financial development) explain the dependent variable (GDP growth rate). In addition, the adjusted $R^2 = 87.7$ which means a good linear fit.

In the results of estimates, we used the GDP growth rate per capita (GDP) as an indicator economic performance; data was extracted from the period 2000-2014. The coefficients associated with the indicator of female Entrepreneurship (*entrpminin*), human capital (*capitalhm*), the quality of human resource (*qualitrh*) and physical capital (*lecapitalp*) are statistically significant at the 1% ($p\text{-value} < 1\%$). An increase in self-employment of gender female 1% decreases in economic growth of 0.0161978. The human capital, the quality of human resource and physical capital have a significant and positive impact on economic growth. In fact, a 1% increase in share capital, quality of human resources and physical capital increases the economic growth of 0.0040007; 0.0033514 at the 1% and 0, 0,019,229 at the 5% respectively. In addition, the effect of financial development on economic growth appears on average an effect not significant ($p\text{-value} > 10\%$). Indeed, our test shows that there's a relationship positive and statistically significant between higher education and economic growth, this means an increase 1% daughter of enrollment in higher education is likely to increase economic growth because education is a potential driver of economic growth. The state had made significant efforts to expand access to education for all, to all children while developing in parallel, freev post-basic education. The number of pupils who complete the primary education cycle is increasing and the demand for higher levels of education also increases.

According to the estimates, specifically Hausman test statistics will be those random effects model as $\text{Prob} > \chi^2 = 0.3502 > 5\%$. The decline in our model shows that the estimated coefficient for women's self-employment is statistically significant but negative. Indeed our result says that a decrease in entrepreneurial activity of women entrepreneur helps to have a positive impact on economic growth. Which is confirmed by the work of [Salgado-Banda 2005](#)) in their study of entrepreneurship and economic growth, that self-employment is negatively correlated with real GDP per capita over the 1980-1995 periods, in the 22 countries of the OECD.

On the other hand, [Audretsch and Keilbach \(2004\)](#) provide an analysis of entrepreneurship and venture capital and the relation of this to economic growth. The result shows that there is a positive relationship in a way the others. [Audretsch and Keilbach \(2004\)](#) also showed the effect of institutional factors on the entrepreneurial activity rate which the best-known indicator of Global Entrepreneurship Monitor (GEM) on economic growth.

6. Conclusion and recommendations

In a general way, the entrepreneurship has become a full-fledged research field but also a very important practice in a world in which SMEs acquire a role increasingly important in the economy and the entrepreneurship field is nevertheless young. Indeed our econometric analysis

shows that female entrepreneurship has a significant negative effect but also entrepreneurship is considered the channel, it has an indirect impact on economic growth even business creation has been a real engine of economic development; these are seen as a means reduction. The current study is one of the first to link economic development by growth and female entrepreneurship by asking which combinations of economic characteristics explain high ability of female founders in technology, new venture and consequently venture creation decisions. In fact, the important question we address is whether more female entrepreneurial activity, appropriately defined, would increase economic growth, to determine whether female entrepreneurship spurs economic growth has important policy implications. Therefore, it is important that policy makers in studied countries who have responded to the changing role of the female entrepreneur in the last few decades by promoting new formation of businesses with high potential for growth.

The contribution of women's entrepreneurship is becoming more crucial for the economic development of many countries. Women entrepreneurship could even become one of the remedies to the current economic crisis. Women entrepreneurs have potentials to create employment opportunities, create wealth state and generally grow the economy. Women constitute half of the population. Therefore if the economic status State woman is improved through entrepreneurial development, the socio-economic well-being will be attained. The results provide institutionalizing policy framework that targets women entrepreneurship development; capacity building program on business management for women entrepreneurs.

The three tiers of government should provide tax relieve to women entrepreneurs in form of tax cut or tax rebate to help lessen multiple tax burden. Information on the measurement of changes in the level of support of government initiatives and the effect on women-owned business performance are also important. Whether women entrepreneurs take advantage of these performance and initiatives, which initiatives are most appealing, and the incentives used may affect future programs including a strong formation around the world. The World Bank, for example, would have an interest in the effects of incentives on women-owned business performance and sustainability of these businesses.

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