

FINANCIAL DEVELOPMENT AND TECHNOLOGICAL INNOVATION AS A CHANNEL FOR ECONOMIC GROWTH IN MOROCCO

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Abstract

This paper aims to empirically investigate the potential effect development in the financial sector has on technological innovation in Morocco, using a multiple regression analysis (OLS) with annual time series data for the time period of (1993-2013), estimating empirical relationships between variables of Financial development, economic growth, technological development, legal environment and infrastructure. We hypothesise that financial development has a positive effect on the rate of technological innovation as a channel of economic growth. The results somewhat validate our hypothesis for the case of the Kingdom of Morocco, providing support for the financial-led growth theory.

Keywords: Financial development, Technological innovation, Economic growth, Ordinary least square, Finance-led growth theory

INTRODUCTION

This article investigates the potential effect development in the financial sector has on technological innovation in Morocco, which is motivated by the increasing empirical evidence that technological advancement is key to economic growth.

Indeed innovation economists assert that innovative capacity drives economic growth (economic growth being the end product or result of knowledge, systems of innovation, policies and other spillovers or externalities that provide incentives to create innovative clusters or agglomerations) in today's knowledge-based economy and not capital accumulation like neoclassical economists assert.

Joseph Schumpeter who's perhaps the most important of scholars discussed and extensively so the matter of innovation in Economics arguing that "capitalism can only be understood as an evolutionary process of continuous innovation and 'creative destruction'".

Therefore, and as the literature suggests, innovation is paramount to a country's economic growth as well as its competitive advantage, Porter (1992) said "To compete effectively in international markets, a nation's businesses must continuously innovate and upgrade their competitive advantages. Innovation and upgrading come from sustained investment in physical as well as intangible assets."

Furthermore, it is perhaps almost intuitive to say that Financial markets play a critical role in a nation's innovation, by mobilising necessary financial resources, evaluating projects' feasibility, managing inherent risks, overseeing managers, and facilitating transactions; so the development of financial markets is also critical for a nation's innovation (Schumpeter, 1911).

Granted, there is a large economics and finance literature establishing a significant link between financial development and economic growth, and a lot of empirical studies which started in the 1990s tried testing the validity of the finance-led growth hypothesis establishing this strong link, but what these empirical studies lack is one crucial element and it is the channels of influence in which financial development affects economic growth as proposed by theoretical models and especially in a country like Morocco, of course, there have been a couple of other empirical studies taking into account these channels of influence such as Xu and Tian (2014), as well as Kim (2006), etc; but conclusions in studies based on cross-country analysis are unreliable because they are sensitive to the countries chosen in the sample, similarly they are also sensitive to the chosen methodologies, data frequency and proxy measures (Chuah and Thai 2004), so , and in order to mitigate the failings of results suggested by empirical cross-country regressions, we shall use in our study data from Morocco starting from the early 90s.

In this article we will proceed to examine empirically hoping to fill the literature gap, on whether or not financial development has any effect on the rate of technological innovation in the Kingdom of Morocco, under the framework of ideas-driven growth, the main hypothesis being that financial development is positively associated with the rate of technological innovation .

Section II will review the vast literature on this topic in order to summarise and analyse how the literature has developed over time, in section III, we discuss the methodology and data used to investigate the connection between financial sector evolution and economic growth focusing on the role the financial sector plays in funding innovative activities and stimulating the

rate of technological innovation and finally section IV will consider the results of the investigation.

INSTITUTIONAL BACKGROUND

The Moroccan financial sector is one of the most modern and diversified financial sectors in North Africa (seeIMF2003); with a very competitive landscape and a majority of homegrown institutions in addition to several subsidiaries of foreign banks; the system comprises 19 banks, six offshore institutions, 34 non-bank financial institutions and The Casablanca stock exchange (CSE) (registered last in July 2014).

The Moroccan financial system is deeply reformed since the early 90s and around many axes including the opening up of capital markets, the liberalisation of financial transactions and the reform of the banking regulations and financial markets, etc.

Most of these transformations have met their objectives, or are in the process of doing so, for at the institutional level at least, the Moroccan financial system is the most structured of the region, and the strongest too, Morocco has inviting rates of return, second after those noted in South Africa.

The Casablanca Stock Exchange was established in 1929, since then, it has undergone many reforms, one of the most significant ones is that of 1993 which gave us the market that we see today, it achieves one of the best performances in the region North Africa (MENA), being Africa's third largest stock market after Johannesburg Stock Exchange (South Africa) and the Nigerian Stock Exchange in Lagos.

The Moroccan financial sector has gone through many transformations since the late 1950s when the kingdom gained its independence, the second set of changes extended from 1983 to 1992, after that, another wave of reforms unfolded from 1993 to this day; through this flow of reforms the country tried as much as possible to liberalise the course of interest rates definition, to modernise the legal framework of the banking institution; to create a competitive banking environment; to implement more market procedures in managing monetary and credit policies, and last but certainly not least, to deepen the financial sector and establish it an enhancing determinant of economic growth.

But despite the many reforms adopted to deepen the financial sector, there are some weighty weaknesses still, the impact of the financial sector reforms on the real economy in Morocco haven't been of consequence especially in achieving economic growth by improving efficiency or through capital accumulation; moreover there's very little evidence that supports the hypothesis that finance is crucial to the determination of long-run growth in the countries of the MENA region(Boulila and Trabelsi 2004; Al-Awad and Harb 2005), instead, it reacts to

economic development, almost passive, which means that there's a certain level a country's financial depth ought to reach in order to produce a significant effect on economic growth.

LITERATURE REVIEW

The earliest economic growth theories offer arguments that economic development is a process where innovations in both the financial and real sectors cooperate to provide a driving force for dynamic economic growth; the claim was that external technological advancement, unlike financial intermediaries affects the long run growth rate.

Today an expanding body of theoretical and empirical literature shows how financial intermediation helps to mobilise savings, allocating resources, diversifying risks and by doing so contribute to economic growth (Greenwood and Jovanovic 1990; Jbili et al. 1997). Indeed, the newest economic growth theories plead that financial intermediaries bear a part in longrun economic growth.

In point of fact, since Schumpeter (1911) and Robinson (1952), abundant works of literature has been made known to fully comprehend the relationship between financial systems and growth; some fresh theoretical developments have shown two possible connections. The first was indicated in the work of Greenwood and Jovanovic (1990) and King and Levine (1993) suggest that financial markets are of consequence because they help augment the productivity of investment, whilst the reasoning of Bencivenga and Smith (1991) and Jappelli and Pagano (1993) pleads that financial markets influence the mass of savings that are suitable for financial investment.

In the wake of these works, there have been empirical proof that there's a connection between finance and growth (Goldsmith (1969) and Shaw (1973)); newer research (Levine (1997) and Khan and Senhadji (2000)) surveys extensive empirical research dealing with this relationship, where, Khan and Senhadji (2000) make the deduction that financial deepening is induced by economic growth, which proves a strong reverse causality between financial development and growth, meanwhile, Levine (1997) finds five functions the financial system carries out improving information and transaction frictions and helping long run growth.

Indeed, research (King and Levine, 1993; Jayarathe and Strahan, 1996; Levine and Zervos, 1998; Rajan and Zingales, 1998; Beck, Levine, and Loayza, 2000; Beck and Levine, 2002; and Black and Strahan, 2002) revealed that the size and depth of an economy's financial system definitely affects growth in capital, real income, employment, and output.

Further, a few papers have explored the question of innovation as channel through which finance affects economic growth, Brown, Fazzari, and Petersen (2009) reason that the funding of research and development is a channel that connects finance with growth; Xu and

Tian (2014) examined the influence of financial development on innovation, they found that the effect of financial development on innovation is more pronounced in emerging countries and in countries with stronger shareholder protection and weaker creditor protection.

A couple of papers, notably, (Abouch and Ezzahid (2014)), (Yu, Hassan, Mamun and Abul (2014)) and Bendouz (2015) have explored the financial development and economic growth nexus in Morocco, the empirical results are mixed some show that there's only a weak linkage between financial development and economic growth which was explained by the fact that financial development in Morocco is still below the threshold needed to spur real economic growth, which will only be achieved by the full and total liberalisation of financial structures, especially that of capital accounts, whereas Bendouz (2015) finds a positive and significant effect of the financial development index on economic growth, in our paper we will empirically examine innovation as a channel of this influence in an effort to fill the literature gap that deals with the case of Morocco.

METHODOLOGY

In order to examine the validity of our hypothesis which is that financial development is positively associated with the rate of technological innovation in Morocco, we depart by concentrating on innovation as a channel of influence; so we test whether or not financial development enhances innovation following the ideas-driven growth framework, and thus stimulating economic growth; indeed as the financial sector develops the growth rate of innovation should follow, leading to rapid economic growth because of the increasing level of productivity.

We choose to analyse data in the time period (1993-2013), mainly because 1993 was a very big turning point for the Moroccan financial sector marking significant and consequential reforms.

We intend to empirically investigate if financial development has a significant effect on the rate of technological innovation using multiple regressions analysis, our first concern is to determine the right proxies for this method; and in order for that to be accomplished the first two questions that need to be answered is how to exactly represent technological change in a country, and of course finding measures that apprehend sufficient aspects of financial development which is particularly difficult and the reason for that is owed to intricate nature of functions the financial sector serves in the economy of country.

The Data used in this paper was collected from the world bank data bank, the Heritage Foundation, the wall street journal and the World Intellectual Property Organisation (WIPO).

Variables and data

Scientists in the past have used a number of measures for technological innovation, variables such as R&D expenditure, the innovation index, or less direct measures like Total Factor productivity which is distantly related to technological innovation and its fluctuations are a bit harder to understand; but the real trouble with these measures is that they are not available for most developing countries.

In this paper, we decided to use patent data as a proxy for technological innovation, which has numerous advantages, starting with the fact that patent data is the most direct measure of innovative output, as the invention passes through the scrutiny of patent offices testing its novelty and utility as well as marketability; in fact the theoretical literature argues that patent data constitutes the most concrete representation of the innovative output by a country (see Stern and AI (2000)).

The choice of this variable was also motivated by the fact that it allows us to isolate to a certain extent the effect of the financial sector on technological innovation, this is supported by evidence from the research of Comanor and Scherer (1969) that showed that patent data reflects less government contract work than it does private research since the latter tends to be of a superior quality, we compute average growth rates of patent applications to construct our data.

Having determined a proxy for innovative output, we now proceed to select indicators that will represent every possible aspect of financial development, which empirically, is very hard to achieve because it's very hard to predict how the financial sector and its complex functions are interlinked; therefore, we select three different indicators which have been proposed in the literature in order to fully perceive the different expressions of financial development.

The first indicator, the ratio of private credit by deposit money banks to GDP which is basically the financial resources provided to the private sector by domestic money banks as a share of GDP, it measures the action of passing savings to investors, as the financial sector develops, more funds are transferred from savers to investors; acting as the most accurate manifestation of the central function of the financial sector, which is, effective intermediation of funds.

The ratio of liquid liabilities to GDP, or financial depth, has to be the most utilised indicator of financial development; liquid liabilities measure the size of the financial sector with no separation between the natures of the liabilities (see Beck et al, 1999). We use liquidity as a financial development indicator with some reservations since the measure has received moderate criticism implying that a high level of liquidity can indicate a dearth of alternative assets that can be employed to store value (See De Gregorio and Guidotti, 1995).

Lastly, we make use of the ratio of deposit money bank assets to GDP as another measure of financial development, this ratio is a size measure and mirrors the significance of the services performed by the banking sector which includes commercial banks and other financial institutions that accept transferable deposits, such as demand deposits.

We brought into play a couple of other “control” variables, the first of which we selected based on the R&D literature which indicated that R&D effort is an eminently expressive determinant of technological innovation, and a very common measure of that would be the number of researchers in R&D (per million people), the only problem with this indicator is that this data is not available for a long enough time span for a developing country like Morocco, we decided to make due with a linear interpolation in order to solve this problem. Another problem arises when we try to represent the infrastructure side of R&D activities, which is usually measured by R&D expenditure data, for there are no technological advancements without adequate infrastructure and funding from various institutions, governments and businesses, of course, this data is not available for Morocco so we are forced to substitute the missing data with interpolation methods in this case too.

We also used the real GDP per capita indicator in order to capture the translation of a country’s Knowledge stock into a real state of economic development (see Porter and Stern, 2000).

Other variables to pay attention to are Openness, a country can learn from technologically more developed countries, especially if it’s heavy on technology imports leading to an interesting spillover effect; as well as Total government consumption in GDP which proxies the impact of government intervention; Intellectual property rights which according to the literature should have a positive impact on the production of innovative knowledge as it plays an important role in the process of this production; and Inflation of course since economic turmoil time periods are likely to affect innovation creation and utilisation.

Model Specification

As previously mentioned, the focus in our paper is the relationship between the rate of technological innovation and the degree of financial development; since the general consensus dictates that it’s technological innovation that determines future economic conditions (growth), the regression equation that we try to estimate is the following:

$$IPA = \beta_0 + \beta_1 PCDM + \beta_2 LL + \beta_3 DMBA + \beta_4 RES + \beta_5 EXPEN + \beta_6 CAP + \beta_7 OP + \beta_8 IPR + \beta_9 INF + \beta_{10} GOV + U$$

Where: PA= Patent application; PCDM= Private credit by deposit money; LL= Liquid liabilities; DMBA= Deposit money bank assets; RES= Number of researchers in R&D; EXPEN= R&D

expenditure; CAP= GDP per capita; OP= Trade openness; IPR= property rights index; INF= Inflation; GOV= General government consumption expenditure.

EMPIRICAL RESULTS AND DISCUSSION

An ordinary least square (OLS) regression method was applied to determine the impact of financial development on the rate of technological innovation. The regression results for the model are reported in the following table.

Table 1: Multiple regression equation outputs (using Eviews)

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-203,3686	216,1322	-0,940945	0,3689
PCDM	-14,05192	6,964748	-2,017577	0,0713
DMBA	15,91858	7,999447	1,989960	0,0746
LL	-7,440209	4,288360	-1,734978	0,1134
RES	-0,046805	0,312148	-0,149943	0,8838
EXPEN	-42,13619	123,6567	-0,340751	0,7403
GOV	6,964458	14,91517	0,466938	0,6506
CAP	0,122933	0,060219	2,041414	0,0685
INF	-1,348987	5,205449	-0,259149	0,8008
IPR	-0,541022	1,197770	-0,451691	0,6611
OP	4,423144	2,603152	1,699150	0,1201
R-squared	0,804122	Mean independant var		129,6667
Adjusted R-squared	0,608243	S.D. Devpendent var		55,33135
S.E. of regression	34,63215	Akaike info criterion		10,23312
Sum squared resid	11993,86	Schwarz criterion		10,78025
Log likelihood	-96,44780	Hannan-Quinn Criter.		10,35186
F-statistic	4,105211	Durbin-Watson stat		1,935712
Prob(F-statistic)	0,017932			

The results above indicate that PCDM, DMBA and INF are statistically significant at 10%, while PCDM is negative DMBA is positive which suggests that Financial development does have a slight positive effect on the rate of technological innovation, but it remains insufficient, so this relationship remains unclear, INF, on the other hand, is negative as expected, LL shows insignificant results which are possibly due to the fact that liquidity is a poor measure of financial development; openness and government consumption come out positive and insignificant; GDP

per capita is significant at 10% and positive which indicates the country's ability to translate somewhat of its knowledge stock into real economic development, IPR is highly insignificant as well as R&D expenditures and the number of researchers in R&D.

The adjusted R-squared value is 0.608243, implying that 61% of the variation in the rate of technological innovation in Morocco (proxied here by patent applications) is explained by the independent variables, which is an indication of a good fit.

The Durbin-Watson statistic is 1,935712 which is very close to 2 suggesting that there is no major autocorrelation problem which implies that the regression has economic meaning. The overall equation is statistically significant as shown by the probability value of the F-statistic (0.017932)

Diagnostic tests

In order to examine the robustness of the model used diagnostic tests were also conducted; the results are as follows:

-*Breusch-Godfrey Serial Correlation LM Test*: The Null hypothesis is No serially correlated errors, the results are F-statistic= 3,84/ Prob. Chi-Square= 0,058, we then fail to reject H₀.

-*Normality Test*: The Null hypothesis is errors are normally distributed, the results are Jarque-Bera= 0,30/ Probability= 0,85, we then fail to reject H₀.

-*Heteroskedasticity Test (Breusch-Pagan-Godfrey)*: Null hypothesis is Homoscedasticity, the results are F-Statistic=1,53/ Prob. Chi-Square=0,24 so we can't reject H₀.

The diagnostic test suggests a good fit of the model. The model does not suffer from the problems of non-normality of the errors, serially correlated errors and heteroskedasticity which can be seen from all the probability values which are greater than 5%.

CONCLUSION

The very essence of the financial-led growth theories is the importance of investment, that financial development provides the fuel that helps kick start economic growth, in this paper, we empirically investigate the channels of influence through which this happens.

Our starting point was hypothesising a positive effect of financial development on the variations in the rate of technological innovation, which then affects economic growth too, and according to the most part of the literature at least on this particular topic, not to mention a couple of cross-country empirical investigations, our hypothesis should have been verified.

After conducting our analysis, we are left with the conclusion that financial development in Morocco partially enhances the rate of technological innovation, promoting economic growth and to a certain degree supporting the finance-led growth theory.

Of course, one of our foremost motivations in investigating this relationship, is to look at the case of a developing country like Morocco in a personalised and more focused fashion, mainly because of the major dearth of this kind of studies on Morocco; our analysis confirms the impact the financial sector, and investment, in particular, has on innovation and thus economic growth, which is only logical; it also indicates that trade openness also has a relatively positive effect in this context illustrating a catch up effect where a country taps into another's technological advancement and know-how from the developed world increasing per capita income and returns to capital.

Moreover, the analysis in this paper is able to produce an important policy implication, which is, if Morocco, like most developing countries, took further steps to fully liberalise its financial sector allowing a free movement of financial capital across borders and becoming market-oriented, and a special interest was deployed to properly provide for and equip the R&D sector, the kingdom could potentially benefit from a higher rate of technological change, resulting in enhancing the ratio of economic growth.

Over and above that, our paper is a corroboration of previous studies on Morocco, the financial system of the country's yet to reach the level of maturity capable of spurring enough economic growth, there is, however, much latent and unexploited potential for growth (See Graff, 2002); a potential it's possible to tap into by modernising the traditional financial sector and borrowing technology from more advanced countries, efforts should be made to support financial technology and financial innovation; policymakers ought to focus on deepening the financial sector, limiting government intermeddling in the sector, building up a growth promoting legal environment, not to mention investing in human capital.

Future research direction could be to investigate the cause for the insignificance of the variables RES, IPR and EXPEN as per the findings of our analysis which are not consistent with the general literature, as well as exploring ways for the kingdom to reach its growth potential primarily through new policies allowing for the deepening of the financial services industry and it's liberalisation.

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REFERENCES

- Aghion, P., Bloom, N., Blundell, R., Griffith, R., Howitt, P. (2005). Competition and innovation: an inverted U relationship, *Oxford Journals, Quarterly Journal of Economics*, Vol. 120, Issue 2, pp. 701-728.
- Aghion, P. et. al (2009) The causal impact of education on growth: evidence from US, mimeo, Harvard University.

- Aghion, P., Harmgart, H., Weisshaar, N. (2010). Fostering growth in CEE countries: a country-tailored approach to growth policy, European Bank for Reconstruction and Development, Working Paper, no. 118/2010, pp. 1-29.
- Ahlstrom, D. (2010). "Innovation and Growth: How Business Contributes to Society". *Academy of Management Perspectives* .24 (3): 11–24.doi : 10.5465/AMP.2010.52842948 .
- Antonelli , C. (2003) . *The Economics of Innovation, New Technologies, and Structural Change* . London: Routledge. ISBN 0415406439 .
- Cameron, G. (1998) "Innovation and growth: a survey of the empirical evidence", Nuffield College, Oxford, pp. 1-34.
- Christopher Freeman (2009) «Schumpeter's Business Cycles and Techno-economic Paradigms», in Wolfgang Drechsler, Erik Reinert and Rainer Kattel (Eds.) *Techno-economic Paradigms: Essays in Honor of Carlota Perez*, p. 126.
- Czarnitzki, D., Toivanen, O. (2013). Innovation Policy and Economic Growth, European Commission-Fellowship initiative The future EMU, *European Economy, Economic Papers* 482/2013, pp. 2-40.
- Farrell C. J. 'Economics , R&D and Growth' , [1]
- Fornahl , D . ; Broekel , T . ; Boschma , R . (2011) . "What drives patent performance• of German biotech firms ? The impact• of R&D subsidies , knowledge• networks and their location" . *Papers in Regional Science* .90 (2): 395–418.doi : 10.1111/j.1435-5957.2011.00361.x .
- Friedman, M. (September 13, 1970). "A Friedman doctrine—; The Social Responsibility Of Business Is to Increase Its Profits" . *New York Times Magazine* .
- Griliches. Z 'Productivity, R&D, and the Data Constraint' *American Economic Review* , Vol. 84, No. 1, (Mar., 1994) pp. 1 – 23
- Gurbiel, R. (2002). Impact of innovation and technology transfer on economic growth: The Central and Eastern Europe Experience, *Warsaw School of Economics*, pp. 1-18.
- Johnson , Bjorn (2008) . "Cities , systems of innovation• and economic development" . *Innovation: Management, Policy, and Practice* . 10 (2/3): 146–155. doi : 10.5172/impp.453.10.2-3.146 .
- Mark, M.; Katz, B.; Rahman, S.; Warren, D. (2008). "MetroPolicy: Shaping A New Federal Partnership for a Metropolitan Nation". *Brookings Institution: Metropolitan Policy Program Report* .2008 : 4–103
- Minniti, A., Venturini, F. (2013). R&D Policy and Schumpeterian Growth: Theory and Evidence", *University of Bologna, Working Paper*, no. 945, pp. 1-43.
- Nadiri, I. (1993).*Innovations and Technological Spillovers*", Working Paper 423, National Bureau of Economic Research, Cambridge, MA.
- Norris, E.D., Kersting E., Verdier, G. (2010). Firm Productivity, Innovation and Financial Development, *International Monetary Fund, Working Papers*, WP/10/49, pp. 3-34.
- OECD (2006) .*Venture capital development in MENA countries – Taking advantage of the current opportunity*", Middle East and North Africa –OECD Investment Programme, MENA Investment Policy Brief, Issue 1, pp. 2-10.
- OECD (2007) "Innovations and growth: Rational for an innovation strategy", pp. 3-29.
- Peilei , F . (2011) . "Innovation capacity• and economic development: China and India" . *Economic Change and Restructuring* . 44 (1/2): 49–73. doi : 10.1007/s10644-010-9088-2 .
- Pessoa, A. (2007) "Innovation and Economic Growth: What is the actual importance of R&D?", *University of Porto, FEP Working Papers*, no. 254, pp. 1-17.
- Petrariu, I.R, Bumbac, R., Ciobanu, R. (2013). Innovation: a path to competitiveness and economic growth. The case of CEE countries, *Theoretical and Applied Economics*, Vol. XX, No. 5 (582), pp.15-26.
- Romer, P.M. (1986). Increasing Returns and Long-Run Growth , *Journal of Political Economy*, Vol. 98, pp. 71-102.

Salge, T. O.; Vera, A. (2009). "Hospital innovativeness and organizational performance". *Health Care Management Review* . 34 (1): 54 – 67. doi : 10.1097/01.HMR.0000342978.84307.80 .

Schumpeter, J. A. (1943). *Capitalism, Socialism, and Democracy* (6th ed.). Routledge. pp. 81–84.

Schumpeter, JA (1912). *The Theory of the Economic Development: An Inquiry into Profits, Capital, Credit, Interest and Business Cycle*, Harvard Press, Cambridge.

Schumpeter, JA (1939). *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*", Vol.1, McGraw-Hill, New York.

Solow, R. (1956). *A Contribution to the Theory of Economic Growth*, *The Quarterly Journal of Economics*, Vol. 70, No. 1, pp.65-94

Steil, B.; Victor, D. G.; Nelson, R. R. (2002). *Technological Innovation and Economics Performance*. A Council of Foreign Relations Book .Princeton University Press.

Ulku, H. (2004). *R&D, Innovation, and Economic Growth: An Empirical Analysis*", *International Monetary Fund Working Papers*, WP/04/185, pp. 2-35.

Westmore, B. (2013). *R&D, Patenting and Growth: The Role of Public Policy*, *OECD Economics Department Working Papers*, no. 1047, OECD Publishing, pp. 2

Wong, K.P., Ho, Y.P., Autio, E. (2005). *Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data*, *Small Business Economics*, Vol. 24, Issue 3, pp. 335-350.