The role of national accounts in evaluating the economic performance of medium and small industries: Case of Algeria

Nasreddine ENNEMRI, Boumerdes Univesity

Abstract:

This research aimed to investigate the contribution of both the public and the private sector in improving the economy performance of Algeria by focusing on medium and small industries. The research concluded that the private sector is more powerful in improving the economy performance concerning this kind of industries.

Key words: industry, economic performance, national accounts, medium and small industries.

ملخص:

هدف البحث إلى تحدد مدى مساهمة كل من القطاع العام والقطاع الخاص في تعزيز الأداء الاقتصادي في الجزائر، وهذا من خلال تسليط الضوء على الصناعات المتوسطة والصغيرة. وقد تم الاعتماد على اختبار مقارنة بين عينتين مستقلتين كأسلوب إحصائي، وتوصل البحث إلى أن القطاع الخاص يعتبر أكثر قدرة من القطاع العام في تحسين الأداء الاقتصادي الخاص بقطاع الصناعات الصغيرة والمتوسطة.

كلمات مفتاحية: صناعة، الأداء الاقتصادي، الحسابات الوطنية، الصناعات الصغيرة والمتوسطة.

I-Introduction:

Industry is one of the most important economic fields for all the countries of the world owing to its role in creating added values. In fact, there is huge relationship between global domestic product realized especially in great nations and their industries. Indeed, all the countries try to provide the best climate for this field in order to promote it and make it as a strong pillar to improve economic performance.

In Algerian, all the governments have paid a lot of attention to develop the Algerian industry since the independence of the country in 1962. It started by giant industries to make the country more able to enhance GDP and create job and so on. But, such trend didn't participate in improving the country as it was planned, because Algeria had not enough tools to implement this strategy and, consequently, almost the companies failed to face the crisis of hydrocarbon in 80s.

At the beginning of 1990s with the economic openness of the country, the Algerian government allowed the private sector to invest in industry especially by medium and small companies to make this sector participate in the economic development, because the economic reality provided evidence everywhere that public sector can't lonely establish a strong economy and, as a result, the private sector increasingly start to enlarge its investments and to be present in the different industries branches.

This research aimed to investigate the difference between private and public sector, in terms of their ability to improve the macroeconomic indicators, in order to evaluate the economic performance of each one concerning medium and small industries in Algeria. The research focused on some national accounts aiming to determine the contribution of the two sectors in the economy.

1-Problematic of the research:

This research tried to treat the following problematic:

- does the private sector in Algeria participate positively in improving the main macroeconomic indicators in comparison with the public sector concerning medium and small industries?

2-Some previous researches:

Both national account system and industries have captured the attention of many researchers. Among the researches aiming to evoke the role of national accounts and the related issues are:

- **(R. MOULTON, 2003):** the research aimed to discuss some recommendation for possible changes in the national account system of 1993. Among the issues of such changes are: inclusion of multifactor productivity measures in the production account, changes to the definition of output for some financial services, inclusion of consumer durable goods in measures of saving, …, etc.[1]

- **(D. NORDHAUS, 2004):** the researcher investigated how to design national accounts in order to measure non-market activity. He suggested using these accounts for non-market activity and treating non-market goods and services if they were produced and consumed as market activities. The exception for such accounts is related to externality disaggregation, which treats external impacts as combinations of non-market product and implicit transfers.[2]

-**(DASGUPTA, 2008):** the paper targeted to take a critical look at the literature national accounts, the researcher concluded that comprehensive wealth may be adopted as criterion for policy evaluation, and it can be used also to determine sustainable economic development.[3]

-**(OUKACU, 2014):** the problematic of the research was to determine whether it is beneficial to adopt a development basing on the enhancement of an environment, allowing to improve companies competitiveness and encourage the regional economic integration in order to establish an industry able to face the foreign competitively. The research showed that simple adjustment concerning this topic is not enough to promote growth in Algeria, but it is critical to adopt a global strategy of adjustment in order to take into consideration all the factors affecting the effectiveness of the Algerian industry.[4]

-**(TOUARI, 2014):** the research aimed to investigate the Algerian agro-food technopolis in comparison with the neighbour countries. It aimed as well to discuss the main challenges and opportunities of this kind of technopolis. The research concluded that due to the lack of scientific

tools and the adoption of traditional method to manage this industry, Algeria has become the first country in Africa in terms of agro-food imports.[5]

-(GARBINITI, 2016): as the precedent research, this one aimed to presented distributional national accounts but in France. The researchers used a data of national accounts, tax and survey in order to establish homogenous annual series over the period 1900-2014. The research showed that distributional changes may largely impact comparisons of well-being across countries.[6]

- (PIKETTY, 2017): this paper aimed to investigate the distribution of national income in the U.S.A since 1913 using tax, survey and national accounts data. The research concluded that the reduction of the gender gap in earnings has mitigated the increase in inequality among adults, but the share of women falls steeply as one moves up the labour income distribution.[7]

II -Method:

1-Sample of the research: this research evoked the performance of medium and small industries realized over the period 2001-2015 by focusing on the following branches:

- agro-food industries;
- textile and confection;
- leather and footwear;
- wood, cork and papers;
- chemistry, rubber and plastic;

2-Variables of the research: in order to evaluate the economic performance of medium and small industries in Algeria, the researcher used the national accounts system by basing on the following variables:

Table (01): the variables of the research

Variable	Designation
PB	Total Global product
CI	Total Intermediate consumption
VA	Total Added value
CFF	Total non current assets amortization
RI	Total Internal revenue
ILP	Total taxes related to production
RS	Total employees compensation
ENE	Total net operating surplus
SEC	This variable aims to distinguish between public and private sector by describing them as fallows: 1: public sector 2: private sector
Class	This variable determine the activities sectors investigated by the study according to the following description: 1: agro-food industries; 2: textile and confection; 3: leather and footwear; 4: wood, cork and papers; 5: chemistry, rubber and plastic;

Source: prepared by the researcher.

3-Data of the research: the researcher used a data of the previous variables of the Algerian economy accounts published by the national office for statistics through its website[8]. This data contains the values of the variables from 2001 to 2015.

4-Statistical tools: this research has been established using several statistical tools which are:

- Descriptive statistics: minimum and maximum values of all the variables, mean and standard deviation to describe the general performance realized by the tow sectors in all the branches.

- Normality test: this test is very important to be curried out because the main purpose of the research is to compare between public and private sector, knowing that the objective of normality test here is to determine the suitable comparison test for the research data.

-Independent sample t-test: for the variables following normative distribution, independent sample t-test is critical to be used to analyse the performance realized between the public and the private sector of all the branches studied by this research.

III- Results and discussion:

1-Descriptive statistics: in order to take a general idea about the economic level realized by both the private and the public sectors of all the branches studied here, the researcher has included the following indictors:

Table (02): descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PA	150	954,50 Class2 Sec1	964758.2 Class1 Sec2	9,0005E4	1,76910E5
CI	150	683,10 Class3 Sec1	657397.30 Class1 Sec2	6,2858E4	1,24485E5
VA	150	259,20 Class3 Sec1	307360.80 Class1 Sec2	2,7147E4	52763,73681
CFF	150	56,20 Class3 Sec2	21462,90 Class1 Sec2	2,6230E3	3807,90582
RI	150	172,30 Class3 Sec1	285898.00 Class1 Sec2	2,4524E4	49177,65919
ILP	150	29,30 Class3 Sec1	19189,90 Class1 Sec2	1,3788E3	2263,29740
RS	150	355,70 Class3 Sec1	35562,90 Class1 Sec2	6,5042E3	6419,59834
ENE	150	-5206,10 Class5 Sec1	231145.1 Class1 Sec2	1,6640E4	41747,19764

Source: from SPSS using the research data.

The table shows that the best performance according to the previous national accounts adopted by the research has been realized by the private sector since, on one hand, the highest amount of these indictors is related to the performance of this sector in agro-food industries (class1) and on the other hand, the lowest amount of the indicators has been realized by the public sector (except for CFF) in

several branches which are: textile and confection (class2), leather and footwear (class 3) and chemistry, rubber and plastic (class5).

2-Normality test: according to the results of this test, the researcher had to determine the suitable test allowing getting the best comparison between public and private sector. The results are as fallows:

Table (03): normality test results

Des.	sec	Class1 sig	Class2 Sig	Class3 sig	Class4 Sig	Class5 Sig
PA	1	0.257	0.053	0.017	0.056	0.315
	2	0.332	0.113	0.076	0.407	0.117
CI	1	0.259	0.110	**0.015**	0.297	0.213
	2	0.369	0.040	**0.007**	0.288	0.060
CA	1	0.068	0.088	0.024	0.554	0.823
	2	0.231	0.797	0.420	0.609	0.283
CFF	1	0.863	**0.056**	**0.125**	0.063	**0.007**
	2	0.420	**0.000**	**0.000**	0.054	**0.367**
RI	1	0.076	**0.010**	**0.011**	0.319	0.737
	2	0.215	**0.521**	**0.226**	0.498	0.263
ILP	1	**0.000**	**0.028**	**0.007**	0.098	0.066
	2	**0.004**	**0.917**	**0.229**	0.975	0.637
RS	1	0.544	0.189	**0.000**	0.114	**0.015**
	2	0.490	0.991	**0.446**	0.241	**0.534**
ENE	1	1.36	0.064	**0.000**	**0.002**	**0.010**
	2	1.48	1.89	**0.220**	**0.537**	**0.110**

Source: from SPSS using the research data.

Since the general rule to accept that any variable follow normative distribution is when P-value "sig." is above 0.05, the table shows that almost the variables follow this distribution. data.

3-Independent sample t-test:

The upcoming table shows the results of independent sample t-test:

Table (04): independent sample t-test results

	Calss1		Class2		Class3		Class4		CLASS 5
	T	Sig	T	Sig	T	Sig	T	Sig	Sig
PA	-7.459	0.000	-34.84	0.000	-28.67	0.000	3.861	0.001	0.006
CI	-7.733	0.000	-48.88	0.000	NPD	NPD	4.96	0.000	0.003
VA	-6.891	0.000	-17.62	0.000	-33.041	0.000	2.593	0.015	0.020
CFF	-4.354	0.001	NPD	NPD	NPD	NPD	25.191	0.000	NPD
RI	-7.08	0.000	NPD	NPD	NPD	NPD	0.555	0.583	0.013
ILP	NPD	NPD	NPD	NPD	NPD	NPD	-10.698	0.000	0.003
RS	-1.914	0.075	-2.129	0.042	NPD	NPD	7.009	0.000	NPD
ENE	-8.053	0.000	-34.172	0.000	NPD	NPD	NPD	NPD	NPD

Source: from SPSS using the research data.

Except for NPD (non-parametric data), the table provides evidence that there is huge difference between the public and the private sector in terms of their performance realized over the period 2001-2015, since P-value (sig in the table) is under 0.05 for almost the branches studied by the research. This difference is due to several factors and ensures that the private sector is more powerful in creating added value and enhancing global domestic product. In fact, the private sector

exploits much more butter its factors of production and reduces hugely missing energies and capacities. It can as well navigate very well to purchase its needs by reasonable prices and without great delay. It has a great ability to promote its sales and go as far as possible in vending its product everywhere in the country and avoid losing its products if they stay so much at stores. Also, in the way of realizing net operating surplus, the private sector demonstrates that it is more able to exploit its employees and master their salaries. The results shows that it has an important contribution in covering public expenditure through its taxes, which are realisable thanks its good performance in comparison with the public sector concerning medium and small industries in Algeria.

IV-Conclusion:

This paper demonstrated the necessity to promote industries such as: agro-food industries, textile and confection, leather and footwear, wood cork and papers, chemistry, rubber and plastic, constituting the scene of medium and small industries in Algeria owing to its contribution in improving global domestic product. In fact, these industries can be an alternative of oil income if it is planed and conducted to provide added values by respecting the clues aiming to create values. This concern has been proven through the performance of the private sector studied here, since it is able to create values in such industries. It can also get positive net operating surplus for the reason that it is much more powerful in exploiting the factors of production then the public sector in medium and small industries.

V-References:

[1] Brent R.MOULTON, the system of national accounts for the new economy, what should changes?, working paper, bureau of economic analysis, Washington, DC, USA, 2003, P01.

[2] William D. NORDHAUS, principles of national accounting for non-market accounts, CRIW conference architecture for the national accounts, February 6, 2004, P01, from the following website:

http://www.google.fr/url?q=http://www.nber.org/CRIW/CRIWs04/nordhaus.pdf&sa=
U&ved=0ahUKEwj4jo73zNbWAhUIExoKHd3wAlUQFggaMAE&usg=AOvVaw3c
9kjo5PU_2qcyEw5phPPw, 04/10/2017 at 10h15

[3] Partha DASGUPTA, the welfare economic theory of green national accounts,
journal of Environ Resource Econ, January 2009, P01.

[4] Dahbia OUKACI née LACEB, mise à niveau et problématique de compétitivité dans
la démarche stratégique de l'entreprise industrielle Algérienne face à l'économie de
marché, thèse de doctorat en sciences économiques, université de Tizi Ouzou,
Algérie, 2014, P, P 05, 330.

[5] Sihem TOUARI, technopoles agroalimentaires en Algérie prospectives et défis,
9eme séminaire sur "les changements et les défis économiques actuels", université de
Chelef, 23, 24 novembre 2014, Algérie, P, P 01, 16.

[6] Bertrand GARBINITI and others, income inequality in France, 1990-2014: evidence
from distributional national accounts, December 26, 2016, P01, from the following
website,
http://www.google.fr/url?q=http://piketty.pse.ens.fr/filles/GGP2016DINA.pdf&sa=U
&ved=0ahUKEwjEu87I0tbWAhVD3SYKHZ3DCEQQFggTMAA&usg=AOvVaw3T
1lNGdufhSprXwWJ2YWRw, 04/10/2017 at 10h25.

[7] Thomas PIKETTY and others, distributional national accounts: methods and
estimates for the united states, working paper, national bureau of economic research,
Cambridge, September 25, 2017, P01.

[8] http://www.ons.dz/-Compte-de-production-et-compte-d-.html, 04/10/2017 at 10h 40.