

UNIVERSITY OF PARDUBICE
FACULTY OF ECONOMICS AND ADMINISTRATION

THE DIVERSIFICATION OF THE PUBLIC BUDGETS INCOMES
IN ALGERIA
BACHELOR THESIS

University of Pardubice
Faculty of Economics and Administration

**The diversification of the public budgets incomes
in Algeria**

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Bachelor Thesis

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ANNOTATION

This bachelor work deals with economies based on natural resource export and the heavy reliance of them public budgets on revenues from primer commodities such as oil and gas. It also describes the fiscal policies adopted by those countries to avoid them reliance from hydrocarbon revenues.

The bachelor work contains also experiences provided by Norway and Algeria to make the former reliance less strong and make their economies more diversified.

KEYWORDS

Oil-exporter countries, resource curse, diversification, fiscal policy, oil fund, fiscal rules, macroeconomic stability, governance, human capital, public investments, Algeria, Norway.

NÁZEV

Diverzifikace příjmů veřejných rozpočtů v Alžírsku

ANNOTACE

Tato bakalářská práce se zabývá specifickými ekonomika zemí, které jsou závislé na exportu nerostných surovin a jejich zpracování, z čehož získávají převážnou většinu veřejných příjmů do svých veřejných rozpočtů. Jedná se zejména o zpracování ropy a zemního plynu. V práci jsou detailně analyzovány fiskální politiky těchto zemí.

Práce obsahuje také zkušenosti vybraných zemí, jejichž ekonomiky získávají většinu veřejných příjmů ze zpracování ropy a zemního plynu – Norska a Alžírsko. Cílem práce je navrhnout způsob diverzifikace veřejných příjmů v Alžírsku.

KLÍČOVÁ SLOVA

země vyvážejících ropu, jev „prokletí přírodních zdrojů“, diverzifikace, fiskální politika a pravidla, ropný fond, makroekonomická stabilita, lidský kapitál, veřejné investice, Alžírsko, Norsko.

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Introduction

The hydrocarbon impact on an oil economy has been tackled by many economists over the years and demonstrates that oil and gas revenues have many benefits if the countries have utilised them successfully. However, many of these countries have found out that these windfalls, based on exhaustible (non-renewable) resources, become more a curse than a blessing particularly in the developing countries, which have suffered from a poor institutional system, and this is of great interest to some economists. In addition many researchers have found that there is a relationship between resources and rent seeking, particularly when the country depends heavily on these resources and is perceived as lacking in political maturity. In contrast, a few countries have a good performance record in dealing with this windfall, particularly in Western Europe such as Norway. This windfall has provided a good opportunity for this country to improve its economic performance and the standard of living for their people. However there are a lot of countries which still heavily dependent to this resources such as Algeria.

The aim of the current thesis is to demonstrate why Algeria continues to be heavily dependent on oil export revenues and do not fully relaying the potential of its oil for utilizing, achieving and maintaining economic growth. The thesis also humbly shows according to experiences provided in other countries such as in Norway, the best way to manage its oil wealth taking into account its exhaustible character given the country's dependency on depleting natural resources, with due attention to concrete a future fiscal sustainability and new sources of budget incomes .

Following the aim of the thesis we shared the bachelor work into fourth parts; the first one will relate approaches of "resource curse" phenomenon and the theory of economic diversification. The second part will analyze the fiscal policy challenges related to their formulation and implementation in oil-exporter countries, the third part is dedicated to the successful example of Norway on dealing with oil windfalls, in the fourth part we will try to isolate the insufficiencies of Algeria and we will conclude by establishing a road map and recommendations.

1 The resource curse and the strategy of economic diversification

The resource curse refers to the paradox that countries and regions with an abundance of natural resources, specifically point-source non-renewable resources like minerals and hydrocarbons, tend to have less economic growth and worse development outcomes than countries with fewer natural resources. This is hypothesized to happen for many different reasons, including a decline in the competitiveness of other economic sectors (caused by appreciation of a real exchange rate as resource revenues enter an economy), volatility of revenues from the natural resource sector due to the exposure to global commodity market swings, government mismanagement of resources, or weak, ineffectual, unstable or corrupt institutions (possibly due to the easily diverted actual or anticipated revenue stream from extractive activities). The former causes of resource curse are considered as the fourth approaches to analyze this economic phenomenon.

1.1 “Resource curse” approaches

The traditional approach to tackling the resource curse was the “*Dutch disease*”¹ hypothesis, which is the combined influence of two effects: the appreciation of a country’s real exchange rate caused by the sharp rise in exports and the tendency of a booming resource sector to draw capital and labour away from a country’s manufacturing and agricultural sectors, raising their production costs. Together these effects can lead to a decline in exports of agricultural and manufactured goods and inflate the cost of non-tradable goods. Several studies find out that in period of oil prices boom some oil exporters did not show a significant shift of labour and capital away from manufacturing toward resource sectors, although their agricultural sectors often suffered.² These studies have also tried to identify alternative channels through which resource revenues could harm economic growth.

The second approach argues that resource abundance may *reduce the incentives* first, to *accumulate skills and invest in human resources* and second, to *accumulate private capital*. The concentration of revenues on the public sector could also delay difficult decisions on

¹ The Dutch disease is an economic phenomenon; the term was coined in 1977 by “*the economist*” to describe the decline of the manufacturing sector in Netherlands after the discovery of the large natural gas field in 1959

² NOWAK J.J, *Syndrome Néerlandais et Théorie du Commerce International*, Paris: Economica, 1998, p.1, ISBN 2-7178-3597-0

economic reforms and thus complicated the economic development. These features tend to reduce investment efficiency, cumulate economic distortions and retard diversification.

The third approach is the explanation of the *high volatility* of resource revenues associated to the dynamic of, for example oil prices. Several studies consider the impact of volatility of public revenues and expenditures on economic growth; oil exporter countries experience higher volatility in their public sector and external balances which could be the source of increasing investor uncertainty and could complicate the implementation of a balanced fiscal policy, thus regarding economic growth. A larger volatility of revenue incomes and the inability of governments to manage efficiently public surpluses, imply a tendency to conduct a pro-cyclical fiscal policies and unproductive use of budgets.

The last school is guided by the *political economy considerations*, and argue that the resource abundance is the explanation of “resource curse”. Natural resource rent can be a source of conflict, political instability, corruption, weak institutions, inequitable distribution of wealth and policy failure, especially in the case of fractional political states. The political economy school argue that governments in oil-exporter countries may prefer non-transparent methods of deploying the rents in expectancy to maximise the scope for political manoeuvring, where interest groups such as state officials, fight to retain oil revenues and create barriers to change. Favourable channels for redeploying rents are trade protection, job creation in the public sector and over-extended public expenditure. Market discipline may be eroded and government in resource-abundant countries are under less pressure to align their interests with majority. It exist mainly two aspects to the current issue: the impact of resource rents on the quality of institutions and the impact of institutional quality on income. For the first aspect some specialists (Sala-i-Martin and Subramanian 2003)¹ identify a significant negative indirect effect of natural resources on the quality of institutions, they used the “rule of law” and several indexes to measure the institutional quality (Van Der ploeg and Arezki 2008)² conclude that natural resources curse is particularly severe for economic performance in countries with low openness to international trade, the former is highly correlated with bad fiscal policies. The impact of institutional quality on economic growth in resource- exporter

¹ SALA-I-MARTIN, X., SUBRAMANIAN, A., *Addressing the natural resource curse: an illustration from Nigeria*, Washington DC: IMF, working paper No. W9804, pp 1-46.

² VAN DER PLOEG, F., AREZKI, R., *Can the natural resource curse be return into blessing? The role of trade policies and institutions*, Oxford: OxCarre, 2008, Research paper No. 2008-01. Available on [www: <http://www.oxcarre.ox.ac.uk/images/stories/papers/ResearchPapers/oxcarrerp200801.pdf>](http://www.oxcarre.ox.ac.uk/images/stories/papers/ResearchPapers/oxcarrerp200801.pdf)

countries is highlighted by Melhum, Moene and Torkvil (2006)¹, they show that natural resources push aggregate income down when institutions are prone to unproductive influence activities (“grabber friendly”), while more resources raise income when institutions are (“producer friendly”).

The economic diversification is perceived as the way of curing the natural resource rich-countries from the paradox of plenty, for that reason, the following sub-chapter will analyze the concept of economic diversification strategy.

1.2 The strategy of economic diversification

A strong, growing, sustainable economy is the goal of every nation in the world. A sustainable economy enhances a nation’s standard of living by creation wealth and jobs, encouraging the development of new knowledge and technology, and helping to ensure a stable political climate. Having a diverse economy-that is, one based on a wide range of profitable sectors, not just few- has long been thought to play a key role in a sustainable economy.²

1.2.1 The concept of economic diversification strategy

Economic Diversification is generally taken as the process in which a growing range economic output is produced. It can also refer to the diversification of markets for exports or the diversification of income sources away from domestic economic activities.³

In petroleum- dependant economies, diversification is persuading as a process of converting limited and non-renewable oil and gas resources into sustainable development and prosperity.⁴

¹ MEHLUM, H., MOENE, K., and TORVIK, R., *institutions and the resource curse*, Oxford: the economic Journal, 2006, Vol. 116, Issue 508, pp 1-20. Also available on www: <<http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0297.2006.01045.x/pdf>>

² SHEDIAC R., ABOUCHAKRA R., *Economic Diversification: the road to sustainable development*, United States of America: Booz and co, 2008. Available on WWW: <http://www.ideationcenter.com/media/file/Economic_diversification2.pdf>

³ ZHANG L.Y., *Economic Diversification in the context of climate change*, Teheran: United Nations, Oct. 2003.p. 6. Available on WWW: <http://unfccc.int/files/meetings/workshops/other_meetings/application/pdf/bgpaper.pdf>

⁴ AISSAOUI, A., *The Challenges of diversifying Petroleum-Dependant Economies: Algeria in the context of the Middle-East and North-Africa*, Jun 2009, Arab Petroleum Investments Corporation, Middle East Economic Survey, Vol.LII, No. 22, p.6.

Economic Diversification means heavily reducing dependence on the oil and gas sector by developing a non-oil economy, non-oil exports and non-oil revenues.

The last definition demonstrates that different choices can stem from different concepts and their interpretation. Sometimes, these interpretations are easier when considering the antonym of the concept. If we assume, for instance, that Economic Diversification refers to the process by which values-added are distributed across sectors in order to avoid the dominance of any given one, then it is best understood and measured through concentration. In this case, a diversification quotient may be computed as the inverse of Herfindahl- Hirschman index (HHI), a concentration ratio expressed by the sum of the squares of the percent value-added shared of GDP ¹

$$Div_t = \frac{\sum_{i=1}^n s_i^2}{GDP} = \frac{HHI}{GDP} \dots\dots\dots(1)$$

Where (HHI) is Herfindahl- Hirschman index, (n) number of firms and (s_i) is the market share of firms in a market or the size of economy shares of sectors *i*.

However, not only does such a metric require detailed data about the sectors distribution of value-added, which are neither complete nor likely to be up-to-date, but it fails to capture other structural anomalies of the petroleum-dependant economies.

According to several researches, the resource-dependant economies are heavily relied on a single source of income and extremely vulnerable to the instability and volatility of global oil market. Therefore, “Dependence” would be a better antonym of Diversification, consequently the best and easier way to quantify metric would consist on a combination of the share of petroleum in export earnings (percentage of export oil and gas earning by all export) and fiscal revenues (percentage of oil earning by all revenues), in addition to the value-added of oil sector to the total GDP. (Barthélemy and Soderling) used the following Diversification index:²

$$Div_t = \frac{1}{\sum_{i=1}^n \left(\frac{x_{i,t}}{X_t}\right)^2} \dots\dots\dots (2)$$

Where *x_{i,t}* is exports of product *i* (at the three digit level) in year *t* and *X_t* is total exports in year *t*. The inverse of Div takes on a maximum value of 1, when the entire amount of exports is derived from one single product and it tends toward 0 when there are an infinite number of equally weighted products for exports. There exist a lot of empirical studies which

¹AISSAOUI, A., *The Challenges of diversifying Petroleum-Dependant Economies: Algeria in the context of the Middle-East and North-Africa.*
² BARTHELEMY, J.C, and SODERLING, L., *the Role of Capital accumulation, Adjustment and Structural Change for Economic take-off: empirical evidence from African growth*, Paris: OECD, working Paper No 150, Jul.1999,P13.

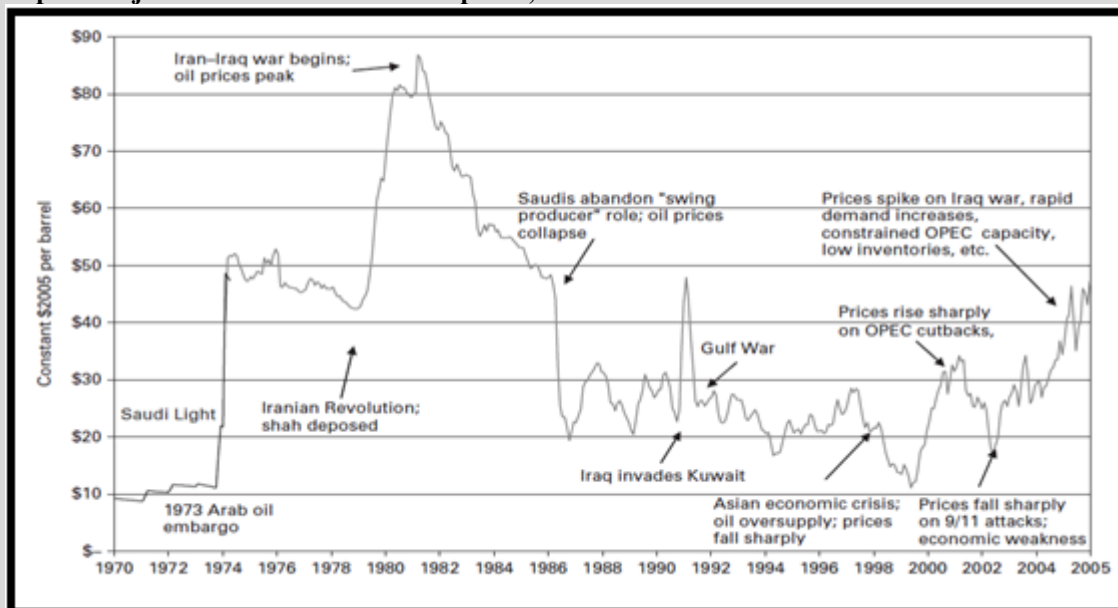
characterize the pattern of sectoral diversification along the development path, the most known and agreed is the study provided by (Jean Imbs and Romain Wacziarg, 2003).¹ The paper studies the evolution of sectoral concentration in relation to the level of per capita income. It shows that various measures of sectoral concentration follow a U-shaped Pattern across a wide variety of data sources: countries –following this study- first diversify, in the sense that economic activity spread more equally across sectors, but there exists, relatively late in the development process, a point at which they start specializing again.

1.3 The rationale for Economic Diversification

There exist four considerations which highlight the rationale of Economic Diversification.

1. *Trends in terms of trade and price instability:* Diversification is considered necessary in order to combat poor market conditions, especially worsening terms of trade and price instability for primary commodities,² which cause large macroeconomic swings in output, employment, government revenues and investment in the home country.³

Graph1: Major events and real world oil prices, 1970-2005



Source: LOWI, R.M., oil wealth and the poverty of politics: Algerian compared, Cambridge: Cambridge University Press, 2009, P 24, ISBN 978-0-521-11318-2

¹ IMBS, J., WACZIARG, R., *Stages of Diversification*, the American Economic Review, March 2003, PP 63-86.

² Indeed the price of primary commodities is very sensitive, especially in oil global market where the coefficient of variation shows 0.7 in a scale from 0 to 1.

³ ZHANG L.Y., *Economic Diversification in the context of climate change*, Teheran: United Nations, Oct. 2003.p. 6. Available on WWW:

< http://unfccc.int/files/meetings/workshops/other_meetings/application/pdf/bgpaper.pdf>

Economic Diversification self-insure against the large macroeconomic shocks transmitted to countries heavily dependent on a limited range of resource exports by wide swings –as shown in the graph above- in the same time, demographic consideration have them impact. Indeed, high rate of population growth dilute the long-run level of rent per head. If population grows at percent %3 per year, the per capita contribution of the constant resource sector will halve in 24 years.¹

2. *Depletion of mineral resources:* the depletion of the mineral resources that underpin many developing economies raises the issue of economic sustainability. Basic economic logic requires the compensatory building up of other types of capital in order to maintain a non-declining flow of income for future generations. These include physical capital (embodied in manufacturing, hardware, and infrastructure), human capital (health, skills and the ability to learn) as well as natural capital.

According to the analysis of (Gelb, Alan 2010), the threat which challenges the oil-exporting countries consists also in technological shocks, which can eliminate or sharply reduce their only comparative advantage, either by creating substitutes or by opening up new sources of supply.²

3. *Economies of scale and external economies in manufacturing:* some researchers believe that there are other important reasons why Economic Diversification. One of the most important is the fact that manufacturing offers a greater scope for economies of scale and external economies.³

Romer's model highlight that the diversity of intermediate good inputs enhances productivity in the final goods sector.⁴Engaging in Manufacturing enables dynamic learning-by-doing gains that raise productivity and income. A related argument is that Diversification exposes producers to a wider range of information, including about foreign markets, and so raises the number of points for potential “self-discovery”. Capability in one sector can open the way to

¹ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P. 2. Disponible sur WWW:< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Gelb2f.pdf>>

² Ex. We can cite a hydraulic fracturing technology, which have opened up greatly increased supplies of natural gas in the U.S, Fusion power, the development of save and cheap nuclear technology or renewable energy technology, battery technology could have a major effect on the demand of oil.

³ ROMER P. M., *Increasing return and long-run growth*, Journal of Political Economy, Chicago: The University of Chicago Press, Vol.94, No 5, Oct., 1986, PP 1002-1037.available on WWW:
< <http://www.jstor.org/sici?sici=0022-3808%28198610%2994%3A5%3C1002%3AIRALG%3E2.0.CO%3B2-C&origin=repec>>

⁴ ROMER, P. M., *Endogenous Technological Change*, Cambridge: National Bureau of Economic research, Dec 1989, Working Paper No.3210. available on WWW:< <http://www.nber.org/papers/w3210.pdf>>

others, especially those that use related knowledge.¹ It's also recommended investing in such "dense" sectors in product space than in products which are in the periphery without clear knowledge, skills or market relationships with other sectors, in order to create a greater externality. It is also preferable if the country's export bundle resembles those of countries with higher level of productivity and income, otherwise the country risks being located into low-wage competition with poorer countries.²

4. *Reduction of portfolio "Risk"*: Diversification also has the benefit of expending the possibility to spread investment risks over a wider portfolio. Greater Diversification will enhance average capital productivity in the long-run by providing better investment opportunities at lower risk. Lack of Diversification leads economic agents to invest in low return, safe traditional products, rather than in riskier projects with higher growth potential. The absence of such possibility will hamper capital productivity in the short-run and capital accumulation in the long-run.³

1.3.1 The relationship between Economic Development and Economic Diversification

According to the strong empirical support provided by (Hess 2008, Leiderman and Maloney 2007), diversified economies perform better over the long-term, the results is robust, there is a fundamental link between economic development and diversification.⁴ The former is generally defined as the process whereby the real per capita income of the country increases over a long period of time without increasing poverty or income disparity. It is also established that countries experiences the similar set of structural transformation as their per capita income rises, which include, an increasing share of manufacturing in GDP and in total export. Therefore economic diversification is an integral part of economic development, and is in the same time, a consequence of economic development.⁵

¹ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P. 5. Disponible sur WWW:< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Gelb2f.pdf>>

² GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010. P. 6.

³ ACEMOGLU D., and ZILIBOTTI, was Prometheus unbound by chance? Risk diversification and growth, *Journal of Economic Research*, Chicago: Chicago University Press, Vol. 105, No.4, Aug. 1997, PP709-751.

⁴ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P.5. Disponible sur WWW:< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Gelb2f.pdf>>

⁵ ZHANG L.Y., *Economic Diversification in the context of climate change*, Teheran: United Nations, Oct. 2003.p.8. Available on WWW:

< http://unfccc.int/files/meetings/workshops/other_meetings/application/pdf/bgpaper.pdf>

1.3.2 The best environment of Economic Diversification

The strategy of Economic Diversification need an economic and politic environment which can help to insure the process, we are going to summarize it in the following point:

❖ Macroeconomic stability: one key element of diversification policy is therefore prudent macroeconomic management over the resource cycle, to help stabilize the economic setting for the non-resource traded sectors, which represent a difficult mission, in one side, according to inability to predict the future prices, and in the other side the high volatility of resource prices, particularly for oil, where the coefficient of variation is close to 0.7.¹

Hamilton (2008) provide a careful study of the statistical proprieties of oil, he find that the random (unpredictability) assumption cannot be rejected,²which tend to the macroeconomic instability (e.g. an exporter with a base value of oil valued at USD 100 per barrel, the difference between a price of USD 50 and one of USD 150 means the variation of %50 of GDP).

The oil-exporting countries suffer also from the short-time booms marked by the appreciation of the real exchange rate (real exchange rates appear to be quite responsive to resource exports),³the first effect is a high increase of prices in non-traded sectors (particularly real estate) and a high growth rates of GDP, with prolonged slumps. This supply side pattern mirrors the even larger swings in the rhythm of real absorption, usually led by swings in public spending.⁴This cycle is possible when the governments borrow from abroad with an expecting increasing real oil prices (the case of Mexico, Venezuela and Nigeria in the 1980's).

¹ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P.9. Disponible sur WWW:< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Gelb2f.pdf>>

² HAMILTON, J.D., *Understanding the Oil Crude*, California: University of California, Jun. 2008. Also available on WWW:< http://www.ucei.berkeley.edu/PDF/EPE_023.pdf>

³ KORHONEN, L., and JUURRIKALA, T., equilibrium Exchange rates in oil-Dependent Countries, Bank of Finland: Institute for economies in transition, 2007. Available on WWW: < http://www.suomenpankki.fi/bofit_en/tutkimus/tutkimusjulkaisut/dp/Documents/dp0807.pdf>

⁴ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P.11. Disponible sur WWW:< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Gelb2f.pdf>>

ZHANG L.Y., *Economic Diversification in the context of climate change*, Teheran: United Nations, Oct. 2003. p.8. Available on WWW: < http://unfccc.int/files/meetings/workshops/other_meetings/application/pdf/bgpaper.pdf>

Severe macroeconomic instability makes export diversification more difficult, the high volatility of real exchange rate stemming from shocks in markets for concentrated exports will reduce incentives in the non-traded sectors, leading “to premature” specialization in the dominant source.¹

Another argument for macroeconomic stability is the fiscal linkage; the most important component of stabilisation policy over “the boom-bust cycle” has to be provided with cautious public spending and a high saving during the boom period.

Finally, the only available solution to stabilization is to adopt a counter-cyclical fiscal policy over the resource cycle.²

❖ Constitution of human capital: sustained attention to quality education on a broad basis to close the gap must be a key component of diversification policy.³ The studies of Ortega and Gregorio (2007) find that, larger is the stock of human capital, more is positive the marginal effect of natural resources abundance on growth. Norway and Australia has successfully used their natural resources to further developmental outcomes because of them high and growing levels of human capital. This study provides a strong evidence of the human for the structure of exports.

❖ Institutions and good governance: an abundant literature suggests that natural resources have a negative impact on growth performance among countries with low institutions quality, some of this literature considers that bad quality of institutions is the root of diverging growth paths of successful and less successful resource-rich countries. The democratic character of institutions is not the only issue but the existence of control institutions can create a kind of “balances on power”, because competition for natural resources rents can make the democracies malfunction.⁴

Eifert, Gelb and Tallroth (2003) distinguish “factional democracies” and “mature democracies”, and argue that highly personalized politics and rent-seeking in the former cases

¹ HAUSMANN, R., RIGOBON, R., *An Alternative Interpretation of the “Resource Curse”*, Washington DC: International Monetary Fund, 2003, pp13-45, ISBN 1-58906-175-6

² See the pages 31-32.

³ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, p.12

⁴ COLLIER, P., *The Bottom Billion: why the poorest countries are failing and what can be done about it?*, Oxford: oxford university press, 2007, p.42, ISBN 978-0-19-531145-7

result in short-horizon, patronage-driven electoral competition and non-transparent allocation of rents. In extreme cases, competition may evolve into open conflict.¹

The recent works in this sense have established the important impact of institutional quality on sustainable growth, that studies show that there are a strong correlation between different measures of institution quality and revenue per habitant, institutional strength is important in relation to potential economic structure.²

Resource economies with strong institutions will have a wider range of potential options for diversification than those where institutions are weak, Gello and Turner (2008) had established a conclusion following their study, that nine African oil-exporters with an average GDP/head of USD 979 scored the lowest average on governance indicators.³ In contrast, a set of eleven low income non-oil African countries, with average GDP/head of only USD 300, that had grown relatively rapidly over the previous decade scored around three times higher.⁴

❖ The adoption of “vertical strategies” and the efficiency of public spending: the public spending of oil rents have a direct impact in each diversification strategy by adopting a careful vertical policy, in general the governments in oil-exporting countries tend to draw resources to the non-traded sectors, consequently the real exchange rate appreciates, and weakens the non-resource traded sectors, this effect can be partly corrected by spending or tax relief, that reduces production costs and encourages investors who will bring new capability and new knowledge.⁵ Vertical policies must be provided carefully due to the following economic risks:

- i. Market mechanism distortion toward import-substitution;
- ii. vertical policies are incentives to the rent-seeking elites instead encouraging competitive investment;

¹ EIFERT, B., GELB, A., AND TALLROTH, N. B, *The political Economy of Fiscal Policy and Economic Management in Oil-Exporting Countries*, Washington DC: International Monetary Fund, 2003, pp 82-121, ISBN 1-58906-175-6

² ACEMOGLU D., JOHNSON S., and ROBINSON J.A., *An African success story: Botswana*, Jul. 2001. Available on WWW: <<http://www.colby.edu/economics/faculty/jmlong/ec479/AJR.pdf>>

³ Governance indicators calculate the capacity of governments to effectively formulate and implement sound policies and the respect of citizens and the state for the institutions that govern economic and social interaction among them, the main indicators adopted by the World Bank are (i) voices and accountability, (ii) political stability and absence of violence (iii) regulatory quality (iv) rule of law (v) control of corruption. For more information see <<http://info.worldbank.org/governance/wgi/index.asp>>

⁴ GELB A., TURNER G., *confronting the resource curse: lesson of experiences for African oil Exporters*, In *Globalisation and economic success: policy lesson for developing countries*, May 2009, P. 74. ISBN 978-0-9585068-3-0

⁵ GELB, A., *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, P.15.

- iii. diverting the attention of policy-makers away from obstacles for economic diversification and growth (policy-makers choose the easier way by introducing new programs rather than address long-standing obstacles to business and the vested interests behind them;
- iv. Conservation of failed policies due to the weak fiscal pressure to change them (high oil rents maintain the same failed economic policies).

Fiscal expenditure in oil-exporting country is not efficient alone even to support diversification process. Without the others aspects, public spending can make the process more complicated and less efficient by increasing domestic demand.

Because of the importance of fiscal linkage, the prime component of stabilization policy over the economic cycle has to be a cautious public spending underpinned by high saving, especially during the boom period. Indeed, the fiscal policy tools represent the key features in oil-exporting countries, considering the fact that oil revenues are high, accrue –on most oil-exporting countries- to the government budget¹ instead tax revenues in non-oil-exporting countries and that the monetary policy plays mostly the complementary role regarding to the adoption by the policy-makers of “managed float” or “conventional peg” exchange rates, consequently the fiscal policy is considered in that countries as the major way to concrete the economic targets in the long and short term. According to this view, diversification strategy is perceived as a target of fiscal policy in the long term which can counter uncertainties of a hypothetic future mineral depletion and can be interpreted as:

1. Diversification of production: as a hypothetic result of capital accumulation, oil production has to be complemented and gradually replaced by non-oil production and thus revenues (i.e. tax revenues resulting from non-oil production).
2. Diversification of revenues: as a hypothetic result of financial assets accumulation, in this case oil revenues are complemented and gradually replaced by financial revenues, without generating non-oil revenues.

From fiscal point of view the two options appear to be equivalent, the wider economic implications are different, in particular them impact in creating employment opportunities. The problematic of fiscal policy with regard to its importance in oil-exporting countries, will be discussed in the following chapter.

¹ According to the IMF the percentage of oil revenues in 2007 in, Algeria, Nigeria, Russia and Saudi Arabia respectively reached %78,1, %77,4, %27,9 and %87,5 of total government revenues.

2 The fiscal policy challenges and implementation in oil-exporting countries

Countries with large oil resources can benefit substantially from them, and the government has an important role to play in how these resources are used. At the same time, the economic performance of many oil-exporting countries has been disappointed, which make some observers ask whether oil is a blessing or a curse. As indicated in the chapter above the role of the government to manage, use and invest efficiently the oil windfalls apply an efficient and cautious fiscal policy. In one side, with regard to the volatility, exhaustibility and unpredictability of oil (natural resources) prices and the dependence of the state budget on the oil revenues. In the other side, economic targets of fiscal policy as exhibited on the “classical”¹ macroeconomic theory can be interpreted as challenges in oil-exporting countries.

According to this angle of view the fiscal policy is considered as the spinal column of firstly, the stabilization of macroeconomic aggregates, and secondly, for the success of any future project which tends to change the features of oil-exporting countries as diversifying them incomes and then the economy.

Along the current part we will try. First, to approach the fiscal policy as developed in the classic macroeconomic theory. Second we will try to analyze the challenges, formulation and implementation of the fiscal policy in oil-exporting countries, with it fiscal rules and institutions.²

2.1 General overview of Fiscal policy

There exists a lot of definition which highlight the meaning of fiscal policy; we are going to mention some of them:³

- The definition of Britannica concise encyclopaedia: *“fiscal policy, are measures employed by government to stabilize the economy, specifically by adjusting the level of taxes, allocations and government expenditures. When the economy is sluggish, the government may cut taxes, leaving taxpayers with extra cash to spend and thereby*

¹ We mean by “classical”, the general macroeconomic theory, not the classical school.

² Despite the theoretical character of the second chapter some practical example will be provided, in order to, support some theoretical arguments including some economic indicators or characteristics of Algeria and Norway (the cases studies of this thesis).

³ Definitions from internet see [www: <http://www.encyclopedia.com/topic/Fiscal_Policy.aspx#1>](http://www.encyclopedia.com/topic/Fiscal_Policy.aspx#1)

increasing levels of consumption. An increase in public-works spending may likewise pump cash into the economy, having an expansionary effect. Conversely a decrease on government spending or an increase in taxes tends to cause the economy to contract [...]”

- The definition of International encyclopaedia of the social sciences: *“Fiscal policy is an aspect of public finance, of making and financing government expenditures. It is distinguished from other aspects of public finance in being concerned with decisions about certain “over-all” variables—such as total expenditures, total revenues, and total surplus or deficit—in terms of their “over-all” effects—such as their effects on national income, total employment, and the general level of prices. The management of their total revenues and expenditures and of the relation between them has become one of the principal instruments by which governments seek to achieve a high level of economic activity and general price stability. This effort encounters many problems—including the compatibility of these two objectives with each other and with other goals, the uncertainty of the size and timing of the necessary actions, and the difficulty of making and carrying out decisions in a large and political organization. Nevertheless, there is widespread confidence that the fiscal instrument is sufficiently powerful, and its use sufficiently understood, to make a substantial contribution to successful economic performance. [...]*”

In general, fiscal policy means the influence of economy by the public budgets (incomes and expenditures); the fiscal policy is generally directed by the central government, the main target is the stabilization of employment rate, inflation and steady growth.

2.1.1 Government budget

Government budget is the basic tool for fiscal policy system assertion, its revenues (incomes) and expenditures (outcomes) are the components by them use the government attains the macroeconomic targets cited above. Government budget is the centralized financial fund and represent the central unit of public finance system.

- ❖ Revenues (incomes) of government budget: the largest part of revenues is generated by taxes, which are the general concepts for devices used by the government to extract money or other valuable things from people and organizations by the use of law. A tax formula contains at least three elements: the definition of the base, the rate structure and the definition of the legal tax payer. Taxes are an obligatory payout which

subjects (households and firms) entrust to government budget in certain high and certain date-limit. Taxes represent in the industrialized economies (market economies) around %90 of the total government income. Taxes has a different forms and its classified under many criterions, considering the financial provenance, taxes are classified as direct taxes (corporate taxes, company taxes) and indirect taxes (values added taxes VAT, sales taxes).

- ❖ Expenditures (outcomes) of government budget: in expenditure side of government budget we distinguish two main components: transfer payments and outlays for product and services acquisition.

Transfer payments are considered as one-sidedly payments from the government budget to other subjects many examples are presented as the old-age pay-off, disability pension, underpinning of unemployment and other types of transfer payments. This operation is considered as the redistribution of revenues earned from taxation.

Deficit of government budget emerge when revenues side (incomes) don't cover completely the expenditures side (outcomes), in this case the government react by:

- i. Selling a state assets (financial or not financial);
- ii. Borrowing from other institutions (financial or not financial) which sometimes create the crowding-out effect.

As regard to the relation between revenues (incomes) and expenditures (outcomes) the government budget take the following form:

- ❖ Steady: when expenditures are equal to revenues.
- ❖ Deficient: when expenditure are higher than revenues (rising of deficit), in the case of repetitive deficit rise the national debt
- ❖ Surplus budget: the expenditures are lower than revenues.

2.1.2 The forms of fiscal policy

The fiscal policy may be non-discretionary (automatic tools) or discretionary using the active tools

1. Non-discretionary fiscal policy: also named built-in fiscal policy, this kind of policy established that there are automatic tools which react automatically to the economic cycle

variation (recession or expansion) without an active intervention of the government, examples about this tools are:

- Corporate profits: taxes on corporate profits group substantially increase during boom times and decline rapidly during times of recession,
- Progressive income taxes: progressive taxation push people into higher income tax brackets during boom times, substantially increasing their tax bill and reducing government budget deficit (or increasing government surpluses). During recession, many individuals fall into lower tax brackets or have no tax liability, this increase the size of the government budget deficit (or reduces the surplus),
- Unemployment insurance program: this program provides payments to greater numbers of people as unemployment increase during times of recession. At the same time the taxes that contribute to unemployment insurance will go down as employment decreases.

2. *Discretionary fiscal policy (active)*: refers to the deliberate deals with taxes and government spending to alter real domestic output, employment and control of inflation, and stimulate economic growth.

If the non-discretionary policies tend to limit the cyclical variation, the discretionary policies tend to eliminate it.

Discretionary fiscal policy is made more difficult due to lags in recognizing for changed fiscal policy and the lags that occur with enacting the changed fiscal policy. Implementing the modified fiscal policy usually requires legislative action, which takes a long time to implement, example include:

- Changes in taxation system: These changes can be provided in range of taxes and there structure by decreasing/increasing in the case of recession/expansion of the economy.
- Changes in invest expenditure: generally regarding to the state infrastructure by decreasing/increasing in the case of recession/ expansion of the economic cycle.
- Employment policy and changes in social allowance and public employment sector.

Using the instruments related above, the executive can provide an expansionary or contractionary fiscal policy by influencing the aggregate demand (or most rarely the aggregate supply) to attempt macroeconomic target in the short run. In the long run, economic output and employment recover their first position with a take-off effect of inflation.

2.2 Fiscal policy in oil exporting countries

Fiscal policy in oil-exporting countries faces a number of specific challenges, these challenges mainly stem from the fact that oil revenues, which constitute the bulk of government revenues in oil-centered economies are exhaustible (non-renewable), volatile, uncertain and largely originate from external demand. In particular, as oil revenues, are large and in the most countries accrue to governments, so the fiscal policy choices have a significant impact on economic performance (economic growth, inflation and current account balance).

Focusing in fiscal policy is justified by the fact that in oil-exporting countries, the scope for curbing inflationary pressure as a natural effect of expansionary policy through monetary policy being constrained on the view of prevailing fixed exchange rate pegs or tightly managed floats, fiscal policy has been the main macroeconomic tool available to control inflation.

Government in oil-exporting countries in other side, were facing various pressures to increase spending, they have been confronted with the choice of saving the windfall revenues resulting from high oil prices or increasing expenditure on physical and social infrastructure. In the short run this choices has a cyclical implication. It also relates to the long term fiscal challenges, as the implications for intergenerational resource allocation and fiscal sustainability depend on the expected returns from accumulated financial assets versus returns from public capital expenditure.

2.2.1 The fiscal challenges in oil exporting countries

The specific features of oil revenues pose challenges in both long and the short-term; intergenerational equity and fiscal sustainability in the long-term, macroeconomic management and fiscal planning in the short-term.

2.2.1.1 Long run issues: intergenerational equity and fiscal sustainability

In the long term, challenge stems from the non-renewability of oil reserves and concerns the issues of first, fiscal sustainability in oil-exporting countries which means that in the “post-oil age” the same amount of public goods (level of expenditure) can be provided as in the “oil-age” without resorting to deficit financing of public expenditure. In other words, how the government should allocate the same level of public goods over time.¹ Second, the intergenerational resource allocation, which requires citizens in the “post-oil age” to enjoy the same amount of public goods as the generation in the “oil age” without bearing a higher fiscal burden in the form of taxation.

The principal policy options to address these challenges are to save oil revenues and to accumulate financial assets (actives) or to invest in physical assets (capital expenditure) which means that oil is transformed into financial wealth preserved for the future generations as shown in the graphs 2 and 3.

(Figure 2 see below) represents the option of accumulation of financial assets with assumptions of ten years oil production, constant production of ten barrels p.a., constant price of USD 10 per barrel and i.e. constant oil revenues of USD 1000 p.a.

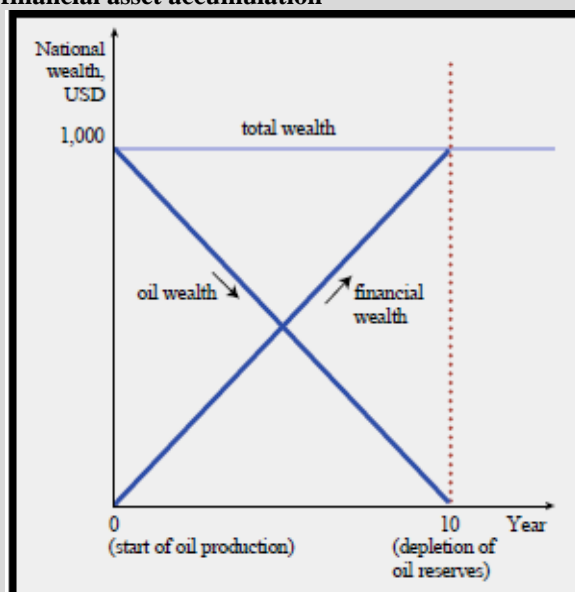
The figure 3 (see below) keeps the same assumptions in addition a return of 10% p.a. on financial assets is assumed.

The reasoning of this theory is clear and makes strong cases for persistent fiscal surpluses to accumulate financial assets. In the other side, it is difficult to make the theory operational, even more implementing them is challenging for the simple reason that is not easy to estimate the oil wealth of the country, defined as the present discounted value oil regarding the underlying assumptions (especially about future path of oil price, oil reserves and about the costs of extracting them).²In this case we can make a difference between two rules.

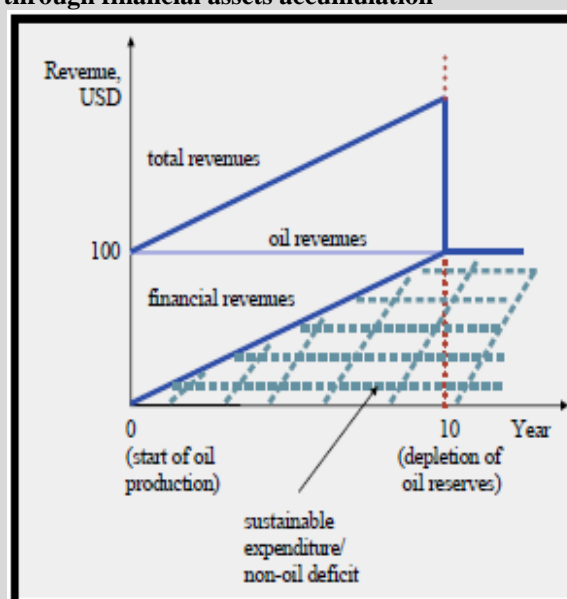
¹ BARNETT S., and OSSOWSKI R., *operational aspects of fiscal policy in oil producing countries*, Washington DC: IMF, 2003, p.46, ISBN 1-58906-175-6

² BARNETT S., and OSSOWSKI R., *operational aspects of fiscal policy in oil producing countries*, Washington DC: IMF, 2003, p.54, ISBN 1-58906-175-6

Graph 2: preserving national wealth through financial asset accumulation



Graph 3: maintaining fiscal revenue sustainability through financial assets accumulation



Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. pp.18-19

1. **Bird in hand rule:** the rule argued that targets a non-oil deficit equal to the anticipated return on existing financial assets; spending decisions are predicated only in the assets already in hand. The bird in hand rule implies a very conservative approach (extreme of precautionary saving to counter the uncertainties of the country's oil wealth by limiting non-oil deficits to the return on accumulated assets.

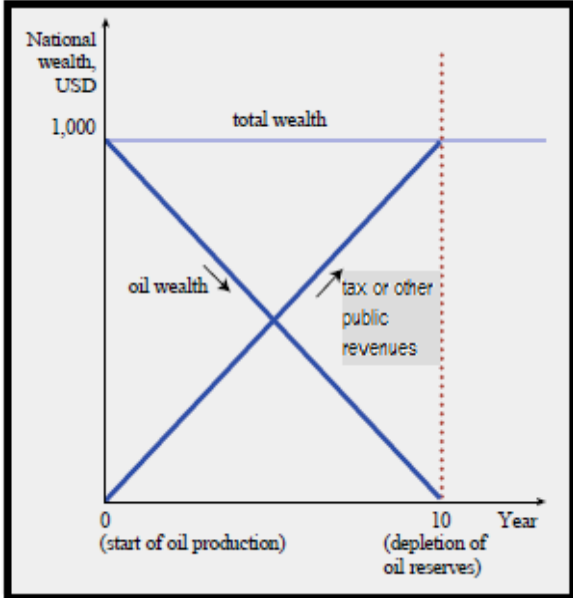
The advantage of the rule is that it does not require estimates of oil wealth.

2. **Permanent consumption rule:** according to this approach, the optimal non-oil deficit is equal to the return on the present discounted values of oil wealth (which is less than the annual flow of oil revenues, i.e. in this case, financial assets needs to be accumulated). The permanent consumption rule have an advantage that it allows for some front loading of public expenditure, which may be more appropriate for countries with large development needs (e.g. in infrastructure).

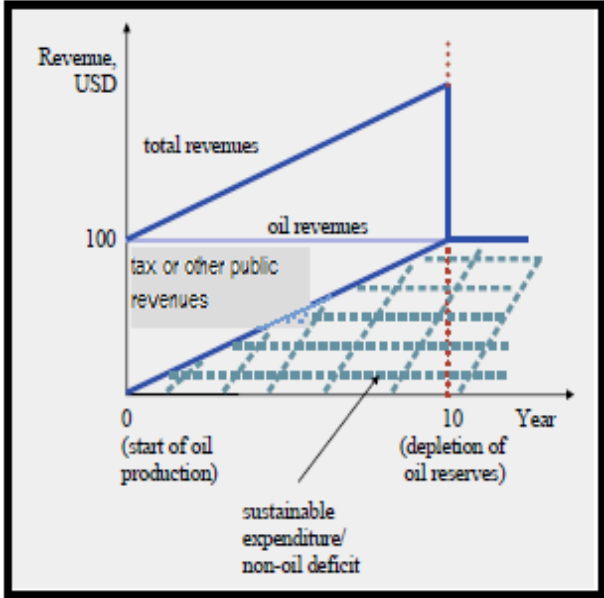
The last two approaches (rules) are based on financial accumulation which can be risky and uncertain especially on the logic of financial world crisis more than accumulation of financial assets don't have an impact on the employment market (decrease of unemployment which is high in the oil exporting countries especially among youth). Indeed, capital expenditure and the accumulation of physical assets could represent an alternative to the accumulation of

financial assets in preserving national wealth for future generations and ensuring fiscal sustainability. This would reduce surpluses and thus allow more expansionary policies. In particular, investment in physical infrastructure and in social infrastructure, e.g. education and health, is generally seen as beneficial in this regard, as such expenditure can be conducive to diversifying the economic away from hydrocarbons by developing the private non-oil sector and thus also creating a basis for generating tax revenues in the future, certainly this strategy have to insure the basic favorable economic and politic environment to attain economic diversification.¹ The question of whether to save oil revenues and accumulate financial assets or to spend them on productive investment depends from the rates of return. In the case where the oil-exporting countries choose the option of accumulation of capital assets instead financial assets the graphs 2 and 3 will change to the following figures.

Graph 4: maintaining fiscal revenue sustainability through Capital assets accumulation



graph 5: maintaining fiscal revenue sustainability through Capital assets accumulation



Note: own corrections according to source cited below
 STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. pp.18-19

Assumptions attached to figure 4 are the same; it means ten years oil production, constant production of ten barrels p.a., constant price of USD 10 per barrel and i.e. constant oil revenues of USD 1000 p.a.

¹ The conditions which surround “economic diversification” were related in the first chapter (i) macroeconomic stability (ii) constitution of human capital (iii) institutions and good governance. (iv) vertical policies and efficient public spending.

For the graph 5 (see above) the assumption are the same with in addition a return of 10% p.a. on capital assets is assume

In other word, the choice of capital accumulation can be traduced by investment in a hypothetic sectors which represent a new value-added to the economy, specialists –in the case of choice the capital accumulation- the option focused on the investment on private sector which will generate a new public revenues i.e. in the form of taxes.¹The difference between accumulation on capital assets and financial assets is that in the former, the investments don't generate a new job positions and consequently don't contribute to the social stability in oil-exporting countries.

In contrast, the specialists prefer the rate of return on usually foreign financial assets which depend on conditions in global financial markets, they argue that capital expenditure are much harder to identify, uncertain and depend on various country specific factors,²such as the stock and quality of existing public capital, and then the marginal return on additional investment, governance, in particular levels of corruption have been identified as factors determining the productivity of public investment and its impact on economic growth (corruption increases public investment but reduce its productivity and have a disastrous effect on economic growth).³

Although the negative environment which can surrounded investments of oil windfalls on physical infrastructure, a lot of countries had have positively experimented (Malaysia on human capital –universities-, Indonesia in agriculture and Chilli).⁴

Many empirical studies were provided about the impact of public investments on the economies of oil-exporting countries.⁵ And conclude that the effect of public capital expenditure on productivity, future output and government revenues are surrounded by

¹ Many experiences in the oil-exporting countries established that invest on the public firms during the last years was inefficient. The experience of Algeria in the 70's and 80's is a good example.

² In general the question of “economic diversification”, “fiscal policy on oil exporting countries” are tackled by specialists in non-oil exporting countries and contribute to spending pressure because of the “global imbalances”

³ HAQUE M.E., and KNELLER R., *Public Investment and growth: the role of corruption*, Manchester: University of Manchester, 2008. p.3. available on WWW:

< <http://www.socialsciences.manchester.ac.uk/cgbc/dpcgbc/dpcgbc98.pdf>>

⁴ For more details see the working paper of Alan GELB, on *Diversification de l'économie des pays riches en ressources Naturelles*, Washington DC: Fond Monétaire International, 2010, Papier de travail dans le cadre de la conférence d'Alger, 4-5 nov 2010, pp. 15-20.

⁵ One of these studies is related in the current thesis as annexe No. 1

uncertainties and some academic difficulties in distinguishing between capital expenditure and current expenditure.¹

Accumulating financial assets and capital expenditure are two alternative policy options, assume that oil is produce and revenues are received, so only their use has to be decided. There are a “third option” -provided by some economists- is to keep oil reserve “in the ground” for the future and use it in the case of price rising in the international market. The third option is somewhere unrealistic with regard to the importance of oil windfalls as the first government budget revenues in the oil exporting countries as underlined in the beginning of the current chapter. It may be also unrealistic for oil-importing countries regarding to the degree of economic dependence from primary commodities in general and mineral in particular. In the other side, any technological shock (discover of substitute for oil-resources) can make the reserves obsolete.

2.2.1.2 Short run issues: macroeconomic management and fiscal planning

The short-run challenges for fiscal policy in oil-exporting countries stems from the volatility and unpredictability of oil prices,² which make the public finance dependent on a volatile variables that is largely beyond the authorities control. This poses a challenge to both macroeconomic management and fiscal planning.

The volatility tends to contribute to a pro-cyclical pattern of government expenditures; the consequences are a macroeconomic volatility and reduced growth prospects.

Pro-cyclicality is the exaggerating or exacerbating of the cyclical tendencies of aggregate economic activity around growth trend during the economic cycle. It has been and still a main feature of fiscal policies in the oil-exporting countries.³

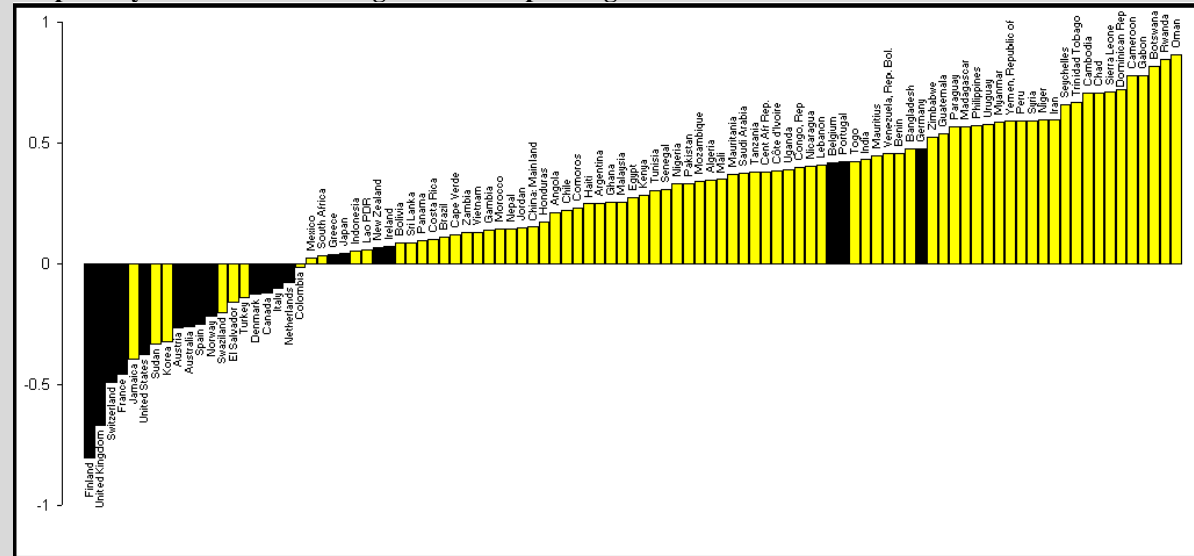
The following figure (graph 6) exhibit degree of pro-cyclicality of oil-exporting countries and oil-importing countries.

¹ E.g. expenditure in the education and health sector could be persuade as capital expenditure in the narrow sense because they contribute to the accumulation of human capital and future growth, and they are important in each diversification strategy as related in the first part of the current thesis.

² The year 2008 is an ideal example of large swings in oil prices; from USD 99 in January to a peak of USD 147 in July and down to USD 34 in December.

³ FRANKEL J., *comment les producteurs de produits de base peuvent-ils rendre les politiques budgétaires et monétaires moins procycliques?*, Washington DC:IMF, 2010, p.3.

Graph 6: cyclical correlation of government spending and GDP 2004



Source: FRANKEL J., *comment les producteurs de produits de base peuvent-ils rendre les politiques budgétaires et monétaires moins procycliques?*, Washington DC: IMF, 2010, p.3.

The graph displays each country’s correlation between government spending and GDP, they range from correlation approaching -1 for Finland, denoting a strongly counter-cyclical policy, to correlation approaching +1 for Oman denoting a pro-cyclical policy.

Black bars are industrialized countries, which are mostly in the counter-cyclical side. In contrast with yellow bars which show that the heavy majority of other countries are in the pro-cyclical side.

Pro-cyclicality makes a case for smoothing public expenditure public expenditures which is further supported by the other potential fiscal costs of volatile expenditure policies and this is due to two main items:

1. *Investment bill*: investment in infrastructure can have large long-term pay-off if it well designed, but in practice it’s take the form of “white elephant” projects, which are stranded without funds for completion or maintenance when commodity prices goes back down.
2. *Government wage bill*: oil windfalls have often been spent on higher public sector wages (salaries or by increasing the number of workers employed by the government which is hard to reverse when oil prices go back down).

In advanced economies, structural budget balances are computed to assess the fiscal stance corrected for the cyclical impact on the government budget revenue and expenditure side. In many oil-exporting countries, tax systems and unemployment insurance schemes are

underdeveloped or do not exist.¹ Therefore automatic stabilizers do not at present play a significant role in oil-exporting countries. Consequently the overall budget balance-to-GDP has to be interpreted with greater caution in that countries than in industrialized economies, and cannot be considered as reliable indicator of the course of fiscal policy for the following observations:

1. In a period of rising oil prices, the deficit (surplus) to GDP ratio may decline (rise) corresponding to an expansionary fiscal policy, expenditure increases or a reduction in non-oil revenue, the result will be that higher oil revenue (and higher oil GDP) would hide the fiscal expansion.
2. In a period of falling oil prices the deficit (surplus) to GDP ratio may rise (fall) regarding to a budgetary consolidation in the form of expenditure reduction and an increase in non-oil revenues.

One consideration can be conclude, other indicators are needed to guide the fiscal policy and to make possible them evaluation , such as the non-oil balance, non-oil GDP ratio, there are indicators which isolate the budget balance from oil price development.²

2.2.1.3 Competing fiscal policy objectives and considerations

Long-term and short-term challenges of fiscal policy in the oil-exporting countries were already exhibited, the major challenge has thus been to manage the large budget surpluses and calibrate fiscal policy between conflicting short-run needs and pressures and competing long-term objectives. These diverse factors calling either for fiscal expansion or retrenchment, the fiscal policy consideration in OEC's (Oil-exporting countries) during high oil revenues are summarized in the following table:

In the short-run as shown in the table above demonstrates that the most evident conflict is between cyclical considerations –in order to contain inflation- which requires fiscal restraint, and various spending pressures stemming respectively from distribution-related spending, development-related spending and pressures from policy recommendations in the context of international debate about global imbalances (external pressures).

¹ STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.24.

² MEDAS P., and ZAKHAROVA D., *A primer on fiscal analysis in oil producing countries*, Washington DC: IMF, March 2009, working paper. No. WP/09/56, pp. 4-9.

Table 1: competing fiscal policy objectives and considerations		
	Short term-consideration	Long term -consideration
Calling for expenditure restraint (retrenchment policy)	<ul style="list-style-type: none"> ▪ Cyclical ▪ Curbing inflationary pressure 	<ul style="list-style-type: none"> ▪ Intergenerational equity (Accumulating financial assets) ▪ Fiscal sustainability (Accumulating financial assets)
VERSUS	VERSUS	VERSUS
Calling for expenditure increase Expansionary policy	<ul style="list-style-type: none"> ▪ Distribution (sharing windfall revenues) ▪ Development (tackling underdevelopment) ▪ Global imbalances (recycling oil revenues) 	<ul style="list-style-type: none"> ▪ Economic Diversification (investing in physical and social infrastructure)
STURM M., GURTNER F., and ALEGRE J.G., <i>fiscal policy challenges in oil exporting countries</i> , European Central Bank, occasional working paper No. 104, 2009. P.36.		

1. Distribution-related considerations: when oil prices are high the governments in OEC's are subjected to public expenditure on various items and find that is difficult to resist it. The public (segments, interests groups, lobbies) think that is normal to benefit from oil revenues and ask for their share in the form of high public spending, simultaneously and regarding to large budget expenditure (and large public assets e.g. SWF's),¹ governments find it hard to argue that additional expenditure cannot be supported. This pressure is stronger especially after the swings of food prices and the last protests in the Arabic countries.²

The distribution-related mechanisms can work in different ways, depending from the political system of the country, in countries where elections decide for political control, the tendency is resort to pre-election budgets to win votes (the electoral cycle of fiscal policy) is further reinforced and constitute the main channel for pressure to increase expenditure or lower taxes (if they exist).³ In other countries where elections do not decide political control, do not exist political competition but distribution-related considerations work through different way but equally powerful channels. The implicit social contract tends to be based on limited representation in exchange for exemption from taxation; it can be low or no taxation of nationals, free or subsidized provision of public merit or even private good- education, housing, electricity, water, it also includes the expectation that citizens will be provided

¹ SWF Sovereign Wealth Fund

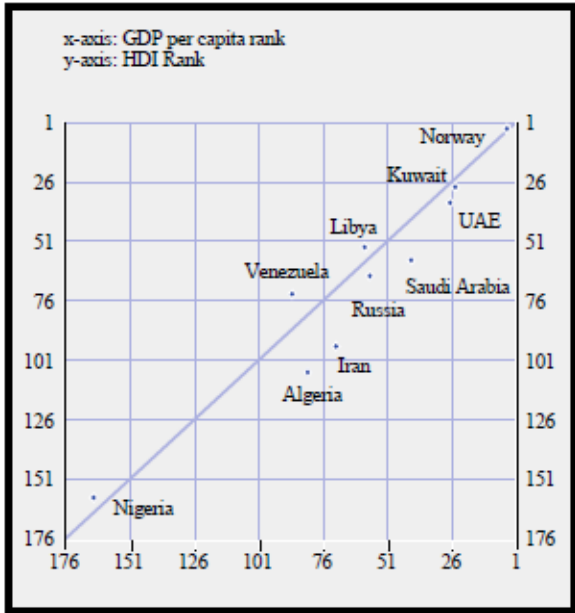
² Food prices increased in the last period, generally due to the climatic changes and swings in oil prices, that situation create a social unease in Arabic countries which evolutes until a political crisis and regimes changes making the region unstable and swinging more the oil prices in one side, and increasing of public expenditure in other oil-countries to make the situation more stable.

³ Russia case in 2007 during the parliamentary and presidential election led a significant relaxation of the fiscal stance.

employment in well paid secure public sector jobs. Large surpluses and large public assets create strong pressures, given as result an implicit social contract.¹

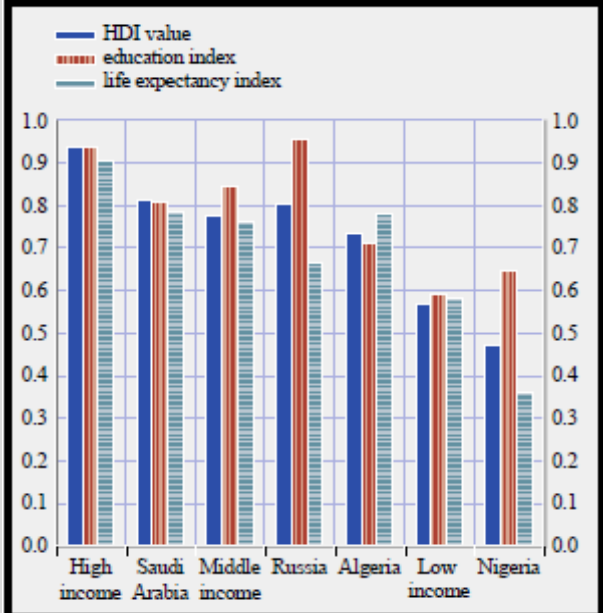
2. Development-related consideration: higher public expenditure are also based on economically well-founded arguments as regard to development-related spending needs, considering that OEC's have relatively a low level of economic, institutional and human development with large deficits in area such as infrastructure, health and education which are important to encourage economic development, a private investment and economic diversification.

Graph 7: GDP per capita and HDI ranking of some OEC's



Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P. 38

Graph 8: human development indicators of some OEC's



Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P. 38

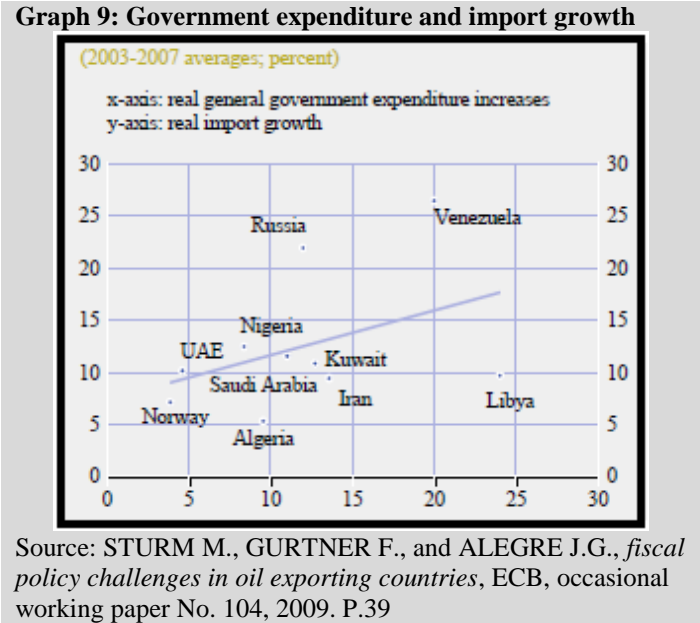
Human development indicators (HDI's) illustrate the development gap, most OEC's rank lower in term of HDI's comparing with other countries which have the same level of incomes (see the graphs 7 and 8).

In period of high oil prices and revenues, exist a real pressure to narrow a gap with advanced economies in term of physical and social infrastructure and to address the needs of growing population.

¹ The concept of implicit social contract (consensus) was developed by, GELB A., EIFFERT B., and TALLROTH N.B., *the political economy of fiscal policy in OEC's*, Washington DC: IMF, 2003, pp 46-82. ISBN 1-58906-175-6

3. Global imbalances and oil revenue recycling: the pressure to increase public spending comes also from abroad in the context of the debate on global imbalances.¹in September 2006 the International Monetary and Financial committee IMFC called for: “ *increasing spending consistent with absorptive capacity and macroeconomic stability in oil producing countries* ”² this, enables investment acceleration in capacity, increased economic diversification, the main argument is the strong correlation between government expenditure and import growth (as shown in the graph 9, see below)

Import growth by spending constitutes a manner to recycle oil revenue via the trade channel which helps to alleviate the adverse economic import of higher oil prices in oil-importing countries.



In long-run, the conflict consists on between in one side, intergenerational equity and fiscal sustainability and in other side the aim of diversifying the economy.³ As shown in the table, diversification considerations require huge public investments in physical and social expenditure (i.e. an expansionary fiscal policy). Nevertheless insure intergenerational equity and financial sustainability by accumulating financial assets responds to counter-cyclical consideration by curbing inflationary pressures.

¹ Rising oil prices since 2003 made that the current account surpluses of oil-exporting countries as a major component of the US current account deficit
² STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.38.
³ See the table in page 33.

2.2.1.4 Options to alleviate conflict between competing fiscal objectives

Many specialists have tackled the problematic of competing fiscal objectives discussed above in OEC's as the specialist in European Central Bank, according to the analysis of other economists and experiences emanating from the OEC's them-selves. Three main options are presented as possible:

- *Improving the structure of public spending:* requires the focusing of expenditure increases on investment with containing consumptive expenditure. Moreover, capital expenditure needs to be concentrated in areas which contribute to slow down the economy and those areas which contribute to inflationary pressures (e.g. public housing sector following internal needs especially low income earners as response to high demographic rate in some OEC's this option can contribute to make less strong the inflationary pressure over the medium term. The last decade exhibited that expenditure increases have focused on investment –the share of capital expenditure in total expenditure has increased comparing to current expenditure. Although the rising of the latter. Expenditure containing public wages and cutting subsidies would offer possibility to increase capital expenditure without an excessive rising of total expenditure. In other words, focusing on development-related spending needs as described above would help to calibrate fiscal policy for maintaining macroeconomic stability.

(The tables 2 and 3 show respectively the tendency of capital and current expenditure in some oil-exporting countries)

	Capital expenditure				Real increase 2003-2008 (%)	Real total expenditure increase 2003-2008
	% of total expenditure		% of GDP			
	2003	2008	2003	2008		
Algeria	37,1	40,5	10,9	11,5	104,5	87,4
Nigeria	16,6	33,3	3,1	4,4	145,5	22,6
Saudi Arabia	14,4	25,9	4,8	6,9	195,1	63,6
Russia	13,1	14,7	4,6	5,0	109,7	87,5

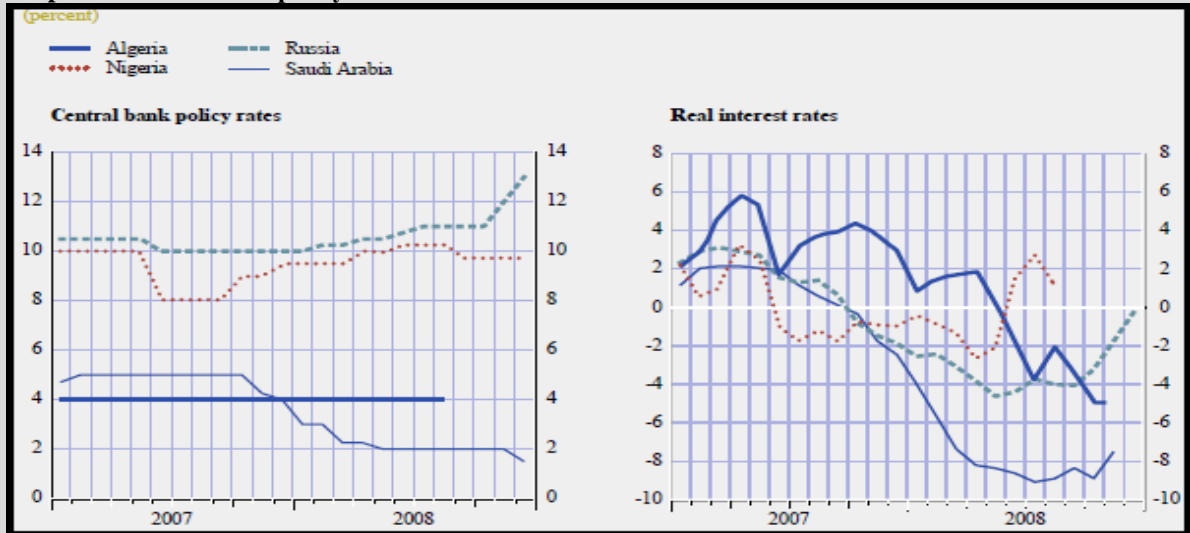
Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.28.

	Current expenditure				Real increase 2003-2008 (%)	Real total expenditure increase 2003-2008
	% of total expenditure		% of GDP			
	2003	2008	2003	2008		
Algeria	72,9	59,5	21,4	16,9	52,8	87,4
Nigeria	83,3	72,9	15,3	9,7	7,4	22,6
Saudi Arabia	85,6	74,1	28,5	19,7	41,5	63,6
Russia	NA	NA	NA	NA	NA	87,5

Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.28

- *Optimizing the phasing of public spending:* it's can be possible by giving priority to public spending. In particular, for expected impact -as explained in the point above- and giving the opportunity to postponing (interruption) other less urgent public investments to periods with lower inflationary pressure.
- *Tightening monetary policy:* monetary policy has been constrained in tackling inflation due to prevailing exchange rate regimes (Figure 12), with exceptions like Norway, the former adopts an independent peg, and the other OEC's adopt more fixed exchange rate or a conventional peg, with an external anchor.¹ Many specialists argue that monetary tightening at time, when inflationary pressure rise, require the modification of existing exchange rate regimes and policies because in one side, monetary policy give a greater role to contain that pressure. In the other side, fiscal policy cannot be the only one tool to maintain inflation in the required level. Tightening monetary policy can insure the following points:
 1. The re-balancing of macroeconomic policy mix;
 2. Enable higher fiscal spending without quasi-automatically contributing to inflationary pressure;
 3. finally, make possible a mitigation of conflicts between fiscal policy objectives, it means lower inflation rate, achievement of domestic objectives without a significant fiscal retrenchment which would reduce the recycling of oil revenues in growth and diversification.

Graph 10: central bank policy rates and real interest rates in OEC's



Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.36

¹ We mean by anchor the foreign currency in which oil is priced almost the OEC's have a tendency to price it in USD such as Algeria, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela. The anchor can be a composite of many foreign currencies (EUR, Yen and USD)

2.2.2 Fiscal tools in oil exporting countries

According to the fiscal objectives explained before, the governments in oil-exporting countries have adopted three main instruments:

1. Conservative oil price assumptions in the budget: the Principle is simple, before the establishment of government budget (stat budget), the government evaluates approximately the future oil price and then establishes the budget according to the future revenues from oil, in the case of surpluses -during the year- the assets inflows to the Sovereign oil wealth as financial assets. However, in the case of deficit, the government draws the difference from the same SWF. Although that budgeted oil prices have tended to be adjusted upward over recent years in view of the price boom (e.g. in Algeria the reference oil in the 2008 budget was increased to USD 37 per barrel up from USD 19 per barrel). Two points of view surround the practice of basing budgets on conservative oil prices assumption one is favorable and the second not

Pro	Against
<ul style="list-style-type: none"> ▪ It is a sign of fiscal prudence ▪ The tool is motivated by political economy considerations ▪ Budgeting for relatively low revenues helps contain expenditure 	<ul style="list-style-type: none"> ▪ Reduces fiscal transparency especially if the assumption price is not published ▪ Increases the margin for the executive to spend

2. Oil stabilization and saving funds: executives of most OEC’s have set up oil stabilization and/or saving funds which manage part of the country’s foreign assets and usually invest them more aggressively than central banks invest traditional foreign exchange reserves. The establishment of these funds is mainly driven by fiscal policy consideration, some funds are managed directly by the existing fiscal authorities and operate inside the budget framework without any earmarking of revenues, and they are often termed as virtual or informal funds. While, formal funds are managed by special appointed boards (fixed council) and operate theoretically, partly or wholly outside the government budget. The revenues of formal funds are earmarked for special purpose, in some case they contribute to enhance the effectiveness of fiscal policy by de-linking budget expenditure from revenue volatility; the formal funds are

directly connected to the level of institutional capacity of the country to manage it effectively.¹

So, in the short-term the establishment of these funds makes the conduct of fiscal policy less volatile and less pro-cyclical, and may also help to contain inflation and avoid the over-heating of the economy.²

In the long-term, the revenues can serve the intergenerational equity and fiscal sustainability that accompany non-renewable resources. The revenue from accumulated financial assets can replace income from oil once those resources are exhausted; the fund can also be drawn for capital spending where there is a high return serving the purpose of economic diversification.

Although the positive results of using saving funds as fiscal tool, and according to them empirical studies, some specialists agree the establishment of this tool and others are against it,³ those points of view are summarized in the following table:

pro	against
<ul style="list-style-type: none"> ▪ Funds can help to avoid rent seeking and corruption and create a focal point constituency for proper management of the revenues ▪ Allows the significant accumulation of assets for future use ▪ They can help avoid revenue volatility by absorbing fluctuations in the price of commodities ▪ Funds can improve fiscal policy impact by defusing spending pressures by sterilizing revenue inflows when prices are high ▪ Funds may keep revenues out of “kleptocratic” until emerging democracies 	<ul style="list-style-type: none"> ▪ Funds are no guarantee of an appropriate fiscal stance and indeed are no substitute for sound fiscal and macroeconomic management ▪ Public knowledge of how much is in the fund, creates serious pressures for more to be spent ▪ The rules governing the operation of the fund are changed to suit political circumstances, and present a temptation to corruption and fraud ▪ Control of the fund endows considerable “Patronage” that may lead to the entrenchment of the regime ▪ Gives a false sense of security which may undermine the basis need for real fiscal discipline

¹ STEVENS P., *resource depletion, dependence and development: can theory helps?*, London: Chatham house, June 2008, p.50, also available on: <www.chathamhouse.org.uk>
² STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. 43 p.
³ STEVENS P., *resource depletion, dependence and development: can theory helps?*, London: Chatham house, June 2008, p.50, also available on: <www.chathamhouse.org.uk>

The oil fund of Algeria was established in 2000, officially named “*Fond des Régulation des recettes*” (FRR) the purposes¹ of its establishment are:

- i. Restore the cushion of external reserves that had previously declined;
- ii. Service the stock of public debt;
- iii. Smooth the longer-term profile of expenditure.

FRR is a sub-account of the government at the central bank of Algeria in a domestic currency, its main purpose is to act as a stabilization fund; it does not have an explicit intergenerational transfer purpose. Since 2004 the resources have been split between a small “liquid” part and a large portfolio of fixed income securities. Returns on are ultimately transferred to the budget in the form of central bank dividends.² The operational features of the fund leave considerable room for discretion, the assets are used to fund domestic infrastructure investments, given the large need for infrastructure, including social housing, and to finance subsidies for basic commodities in order to protect consumers from higher fluctuations of primary commodities and reimburse the external and internal debt.

3. *Fiscal convergence criterion*³: Fiscal policy rule is defined, in macroeconomic context, as a: “*permanent constraint on fiscal policy, typically defined in terms of an indicator of overall fiscal performance, the rules under consideration cover summary fiscal indicators, such as the government budget deficit, borrowing, debt, or major components thereof often expressed as a numerical ceiling or target, in proportion to gross domestic product*”⁴

Fiscal rules are primarily based on political economy considerations; executives tend to have a tendency to finance public expenditure via debt insurance to a greater extent than what is warranted from a purely economic point of view, for that reason executives in those countries create implicit rules in order to improve the deficit bias.

A large part of economic literature provides theoretical and empirical evidence about “deficit bias” mostly about industrialized countries much less about countries dependent from export commodities. Fiscal rules can be seen in the former as particularly useful for guiding fiscal policy and as a tool which can help to contain the deficit bias of governments by limiting their discretion with regard to specific parameters of fiscal policy. Fiscal rules can be *quantitative*

¹ See the case study of Algeria in the fourth part.

² International Monetary Fund, 2008, various articles IV, consultation staff Report.

³ also named fiscal rules

⁴ KOPIT G., SYMANSKY S., *fiscal policy rules*, 1998, Washington DC: IMF, occasional working paper 168, p.2. ISBN 1-55775-704-6

i.e. provide numerical benchmarks for one or more key parameters of fiscal policy with the aim of limiting political discretion or *procedural* by improving budgetary institutions and their management.

There are a few oil-exporting countries that have introduced explicit fiscal rules concerning their non-oil deficit the most known example still Norway.¹ While for the rest they have established rudimentary rules (e.g. Algeria: the surpluses/deficit according to the price assumption per barrel to/from FRR, the same for Russia, Nigeria: percentage share over regions, Saudi Arabia without any implicit or explicit rule).

There are acknowledged that carefully designed fiscal rules can constitute a helpful device to foster fiscal discipline. “Carefully designed fiscal rules” means that has to respect the following points:²

- a) A fiscal rule should be well defined with regard to the indicators, to be constrained in its institutional coverage and the establishment of potential escape clauses;
- b) A fiscal rule has to be transparent, including accounting, forecasting (under provisions) and institutional arrangements;
- c) Fiscal rule should be adequate with respect to the specified proximate goal;
- d) If there is a set of fiscal or other macroeconomic rules, these rules have to be mutually consistent;
- e) A fiscal rule should be enforceable and should clarify the consequences of non-compliance.

Nevertheless, fiscal rules as oil stabilization and /or saving fund are not a panacea to address fiscal challenges and involve problems related to the oil-exporting countries.

The scheme below (figure 13) summarized as well the features of fiscal policy in oil-exporting countries, the export of extracted oil and gas generate a huge revenues, this revenues *accrue to the government* via their oil national companies, oil-revenues represent a major share of the total revenues of the government (Algeria: %78.1, Nigeria %77.4, Russia %27.9, Arabia Saudi %87.5) or the share of GDP (Algeria: % 45.9, Nigeria %35.0 Russia %20.0 Arabia Saudi %54.4) or the share of total export (Algeria % 93.9, Nigeria % 84.2, Russia %44.1, Arabia Saudi % 85.0) as result the fiscal policy take all its importance in oil-

¹ STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. p. 45.

² KOPIT G., SYMANSKY S., *fiscal policy rules*, 1998, Washington DC: IMF, occasional working paper 168, pp.18-19. ISBN 1-55775-704-6

exporting countries especially because of the constrain of monetary policy by adopting or managed float (fixed exchange rates) or conventional pegs. According to high oil and gas incomes the executive find it hard to argue a restrictive fiscal policy during rising up oil-prices, and generally adopt during this period an expansionary fiscal policy as response to diverse pressures (distribution-related consideration, development –related consideration, global imbalances). In macroeconomic theory, fiscal expansionary policy is traduced by increasing expenditure (rarely in OEC's by decreasing taxes because of their weak taxation systems or their inexistency), as result to increase public expenditure (capital or current), income of private households corporate profits rises which increase consequently the domestic demand on the form of private and public consumption and investment (because the non-diversified economy the former induce the rising of import).

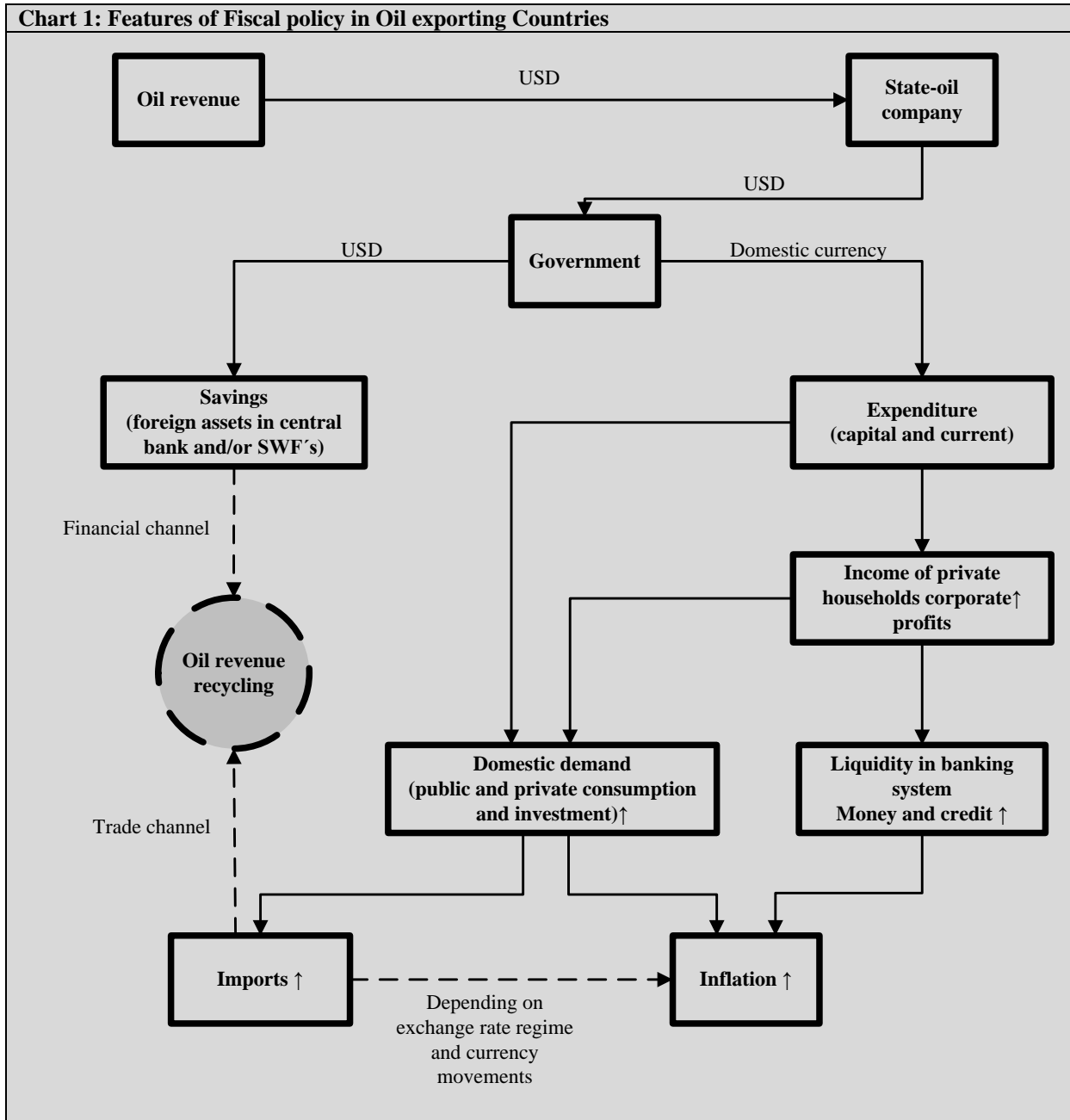
In other side, the rise of household's corporate profits increases automatically the liquidity in banking system (Money and credit).

The underlined aggregates impact negatively in economic system by increasing inflationary rate, which make the economy in main OEC's pro-cyclical with it devastating effects, as macroeconomic volatility and reduction of growth prospect.

As a response to this problematic, many oil-exporting countries has experimented a number of fiscal tools summarized above in three main tool groups; Conservative oil price assumptions; oil stabilization and saving funds; and fiscal convergence criterion –simply named fiscal rules-, in order to contain the huge government bill by saving and institutionalized saving. In some cases, the former fiscal instruments are rudimentary (case of Algeria) or sophisticated (case of Norway), the specialists argue that there are necessary and important to conduct a fiscal policy, in the same time they insist that this fiscal instruments don't represent a panacea of the real problem which is the dependency of the OEC's in one source of revenue.

Indeed, the economy of most OEC's is not diversified and still dependent from oil and gas revenue, this problem is accentuated by the risks of depletion and technological shocks (creation of substitute of oil and gas), the remedy of this situation may be the impulse an economic process of diversification by using those oil and gas revenues (investing them in non-oil sectors), we have already explained that the former process need an adequate economic environment (macroeconomic stabilization, high degree of human capital, a good-

Chart 1: Features of Fiscal policy in Oil exporting Countries



Source: STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.27.

quality of institutions and governance, prudent fiscal policy in a form of efficient spending). Some countries has successfully concluded this process (the case of Norway) some others are in transition (the case of Algeria), for the need of the thesis we will analyze both experiences in the following parts.

3 The experience of Norway

Norway officially named the Kingdom of Norway is a Nordic country situated in northern Europe,¹ occupying the western position of the Scandinavian Peninsula. Norway has a total area of 385,252 Km² and population of about 4.9 million.

Norway is a parliamentary democracy and constitutional monarchy with King Harald V as its head of state and Jens Stoltenberg as its actual prime minister. It is a unitary state with administrative subdivision on two levels known as counties (Fylker) and municipalities (kommuner), the official languages are Bokmal and Nynorsk.

Although a late coming as a petroleum producer (in the early 1970's) Norway has become the second largest gas exporter and the sixth oil exporter in the world and is considered as the largest petroleum earning relative to a small population.

Norwegians enjoy the second highest GDP per capita and the fourth highest GDP (PPP) in the world, it is also considered as the second wealthiest country in the world, maintaining the first place ranking in terms of human development index (HDI) for six years (2001-2006) and then reclaimed this position in (2009-2010) same ranking concerning the level of good governance.

The Norwegian economy is an example of mixed economy; a prosperous capitalist Welfare state featuring a combination of free market activities and large state ownership in certain key sectors. The key issues of the Norwegian success story will be analyzed in the following sub-chapter with accordance to theoretical explanation exhibited above.

3.1 An excellent Economic Diversification Environment

As said before, Norway is a latecomer oil and gas exporter, many economists classified it as an exceptional example in the hydrocarbon group. Indeed, oil and gas production in Norway started as part of a diversified economy with public finances characterized by high levels of

¹ Norway (see the map in the annexe 2) belongs to the European continent and is not a member of the European Union, the membership was rejected in two referenda.

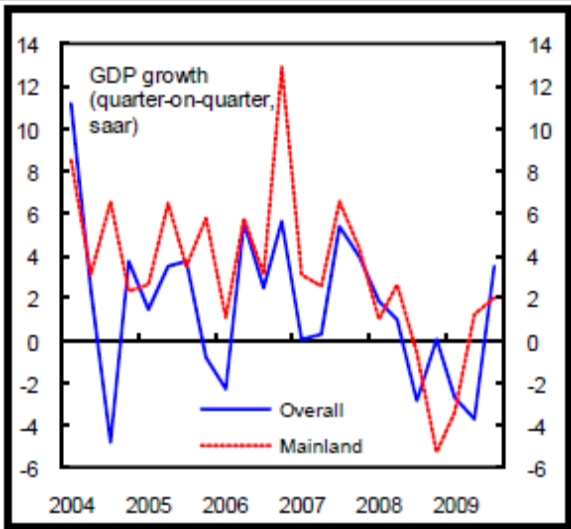
taxation and expenditure (significant manufacturing sector which was complemented with abundant fish, hydroelectric power and forest resources).¹

Considering the exception of Norway-under our point of view- should not hide the efforts of Norwegians to maintain the same economic system before oil-age and to don't yield to the expenditure temptation which can distort the real economic sustainability, where many others failed, as result of this maintaining, Norway shows a good result in term of macroeconomic stability, good governance and high level of human capital.

1. Macroeconomic stability:²

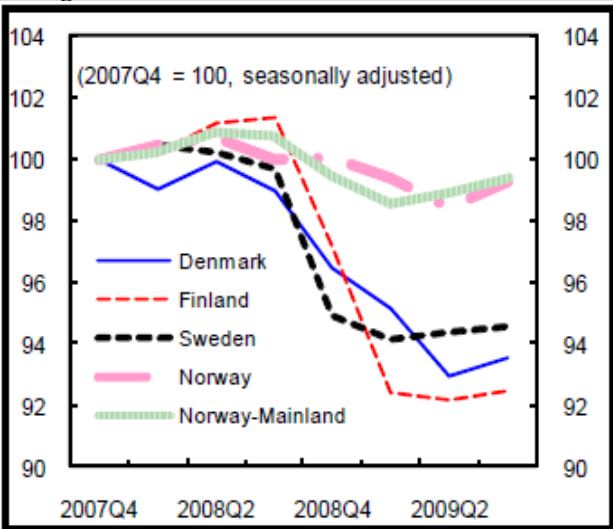
Although the context of World financial crisis, Norway's economy has return to growth after a short and mild recession in mid-2008 (see graph 11)

Graph 11: GDP growth in Norway (2004-2009)³



Source: International Monetary fund, Norway: staff report, Jan 2010, Report No. 10/24 p.5

Graph 12: Nordic countries: evolution of real GDP during the crisis



Source: International Monetary fund, Norway: staff report, Jan 2010, Report No. 10/24 p.3

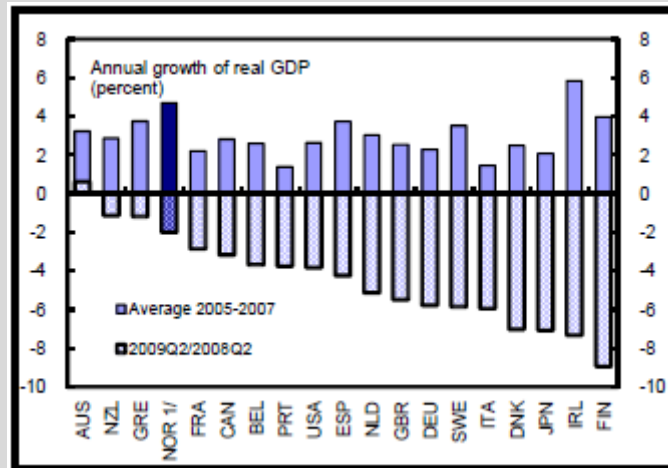
But the recession still relatively mild comparing to its Scandinavian neighbours (see the graph 12). And less pronounced recession than most industrialized economies as exhibited in the (graph 13).

¹ BJERKHOLT O., and NICULESCU I., *fiscal rules for economies with non-renewable resources: Norway and Venezuela*, p.7. available on WWW:<<http://www.uio.no/studier/emner/sv/oekonomi/ECON4925/h08/undervisningsmateriale/IMF%20book%20ch.11.pdf>>

² The subchapter will contain some fiscal policy results as one of the macroeconomic stabilizer policy as in the case of Algeria, we isolate the formulation and implementation of fiscal policy from global macroeconomic regarding to it importance in OEC's as demonstrated in the second chapter of the current thesis.

³ Norwegians make difference between the continental Norway (mainland Norway) and Norway overall which include the over sea lands.

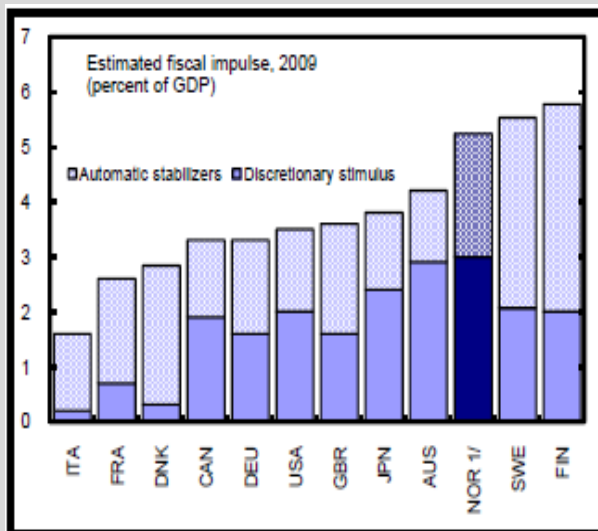
Graph 13: comparison of the impact of crisis in some industrialized economies



Source: International Monetary fund, Norway: staff report, Jan 2010, Report No. 10/24 p.4

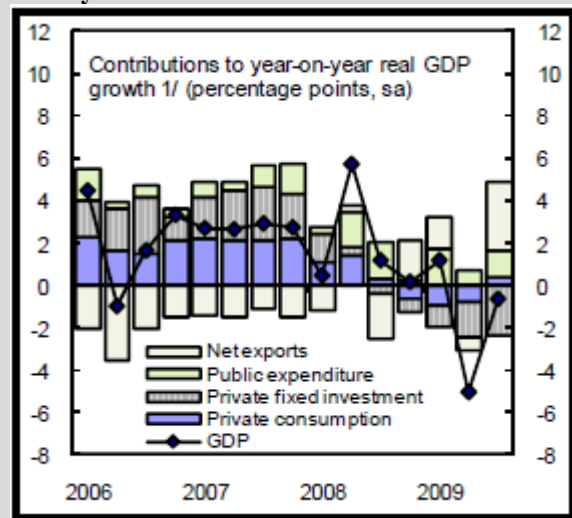
The fiscal policy plays a key role to provide a strong stimulus centred on discretionary increases in spending as shown in the (graph 14) in order to stimulate weaker private domestic demand by improving fiscal stimulus and net exports (see graph 15)

Graph 14: estimate fiscal impulse (2009) in some industrialized countries.



Source: International Monetary fund, Norway: staff report, Jan. 2010, Report No. 10/24 p.4

Graph 15: fiscal stimulus and net export in Norway

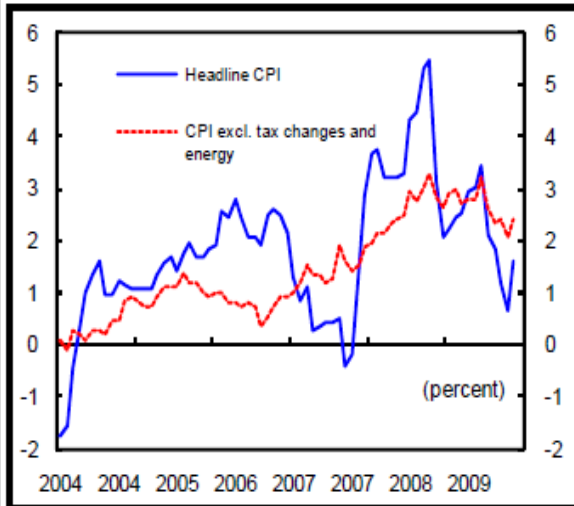


Source: International Monetary fund, Norway: staff report, Jan. 2010, Report No. 10/24 p.5

The Norway's exception -comparing to the other hydrocarbon countries- consist also in the tightening of monetary policy by adopting an independent monetary policy (adopts an independent peg) with regards to macroeconomic mix (Monetary-fiscal-export). During the slowdown of the Norwegian economy, the authorities cut interest rate decisively by adopting large fiscal stimulus to curb the inflation rate. At the same time, the sharp depreciation of the

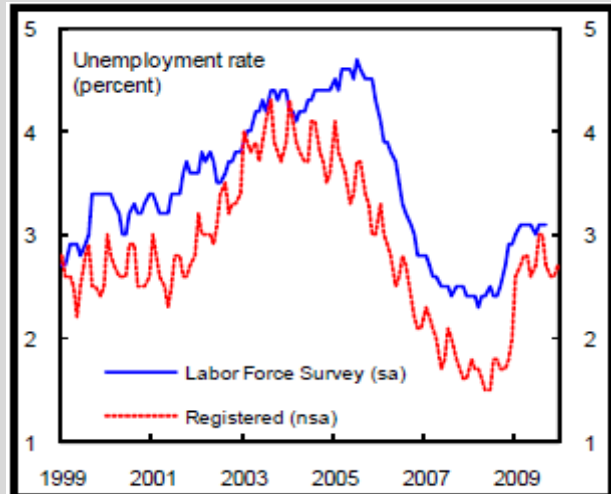
Norwegian currency (the Kroner NOK) in late of 2008 supported net exports which kept the recession relatively mild and short-lived.¹ Consequently the inflation was tackled efficiently (see graph 16) and unemployment has only risen moderately and remain very low comparing to OECD country standard (see the graph 17).

Graph 16: annual inflation rate Norway (2004-2009)



Source: International Monetary fund, Norway: staff report, Jan. 2010, Report No. 10/24 p.7

Graph 17: unemployment rate Norway (1999-2009)

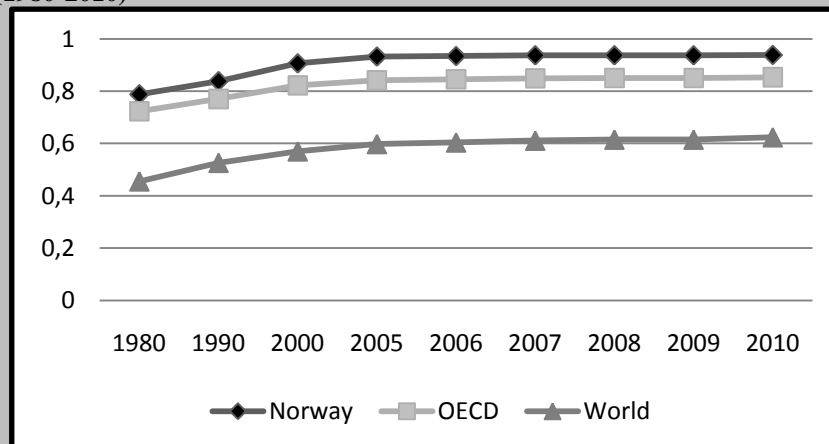


Source: International Monetary fund, Norway: staff report, Jan. 2010, Report No. 10/24 p.8

The overview of these main macroeconomic indicators exhibits the solidity of Norwegian economy and the degree of policies efficiency despite the context of global financial crisis.

2. High degree of human capital:

Graph 18: comparison between Norway OECD and World HDI (1980-2010)

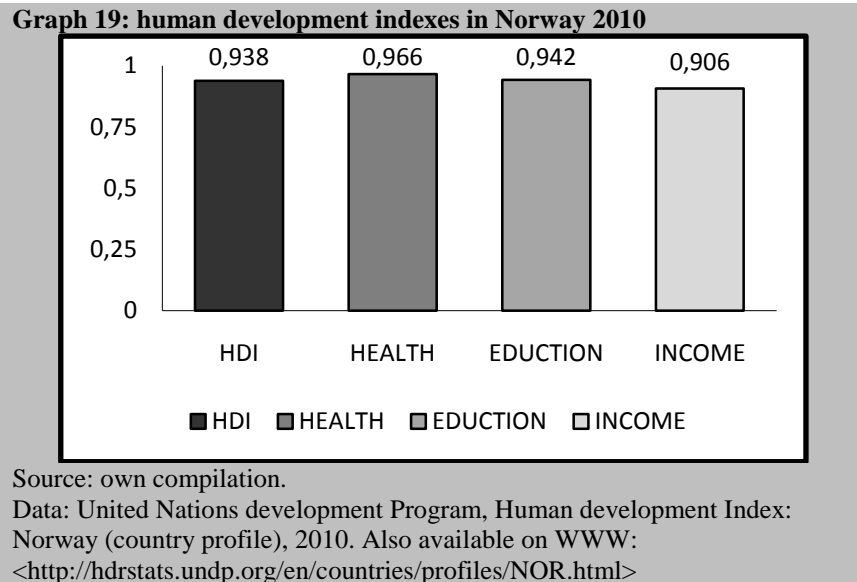


Source: own compilation.

Data: United Nations development Program, Human development Index: Norway (country profile), 2010. Also available on WWW: <http://hdrstats.undp.org/en/countries/profiles/NOR.html>

¹ Source: International Monetary fund, Norway: staff report, Jan 2010, Report No. 10/24 p. 7

According to the world ranking of human development index (HDI) provided in 2010 by the United Nations Development Program (UNDP), Norway reached the first position with a total value of 0,938/1.¹ We have already explained the importance of human capital for any diversification strategy, with regard to the empirical study done by Ortega and Gregorio (2007)



3. Institution and good governance:

“A large-scale build-up of public financial resources [...] require a high degree of consensus, transparency and accountability- traditionally present in Norway make the Norwegian model may not be easily “exported” to many other oil-producing countries.”²

Before the discovery of oil and gas, Norway enjoyed a “democratic system”, during the oil age, maintains its institutions of control, which creates a sort of “balances of power” as explained in the study of Collier.³

According to the classification of oil-exporting countries established by (Eifert, Gelb and Tallroth) Norway belongs to the “mature democracies”,⁴ featuring by the following points:

¹ United Nations development Program, Human development Index: Norway (country profile), 2010. Also available on WWW: <<http://hdrstats.undp.org/en/countries/profiles/NOR.html>>

² DAVIS J., OSSOWSKI R., and FEDELINO A., *fiscal challenges in oil producing countries: an overview*, Washington DC: IMF, 2003, p.8. ISBN 1-58906-175-6

³ COLLIER, Paul. *The Bottom Billion: why the poorest countries are failing and what can be done about it?* Oxford: oxford university press, 2007, p. 46, ISBN 978-0-19-531145-7

⁴ Eifert, B. GELB A., and Tallroth B., *political economy of fiscal policy in oil exporting countries*, Washington DC: IMF, 2003, p 82. ISBN 1-58906-175-6

- Using consensus-oriented and parliamentary institution, with a participation of interest groups (business and labour) to reconcile competing claims over oil rents with long-term objectives and stabilization targets;
- Despite some government troubles since becoming an oil exporter, Norway enjoy a strong pro-stabilisation constituency (employees, trade union and business leaders) dependant to non-oil tradable sectors with a good understanding of the need for restraint in public spending;
- Norway has also kept the same tax system before oil-age with reducing the level of taxes and continues to develop with measures focused on improving tax administration to provide greater fiscal sustainability;
- High level of transparency in political and bureaucratic process reinforces the general trust in the integrity of politicians and their professionalism skills, in other words, Norwegian citizens believe that the politicians are able to manage efficiently and honestly oil rents. (We have seen some fresh investigation documentaries which exhibit the political practices in Norway especially Ministers and them staff, all the current spending of the administration are open over the year for citizens and journalists for investigations, many ministers have been resigned because they stretch some rules, which is not tolerated in Norway in spite of insignificance, analysts explain this level of good governance and transparency to the Protestantism inheritance where austerity and simplicity are the key features of civil services).

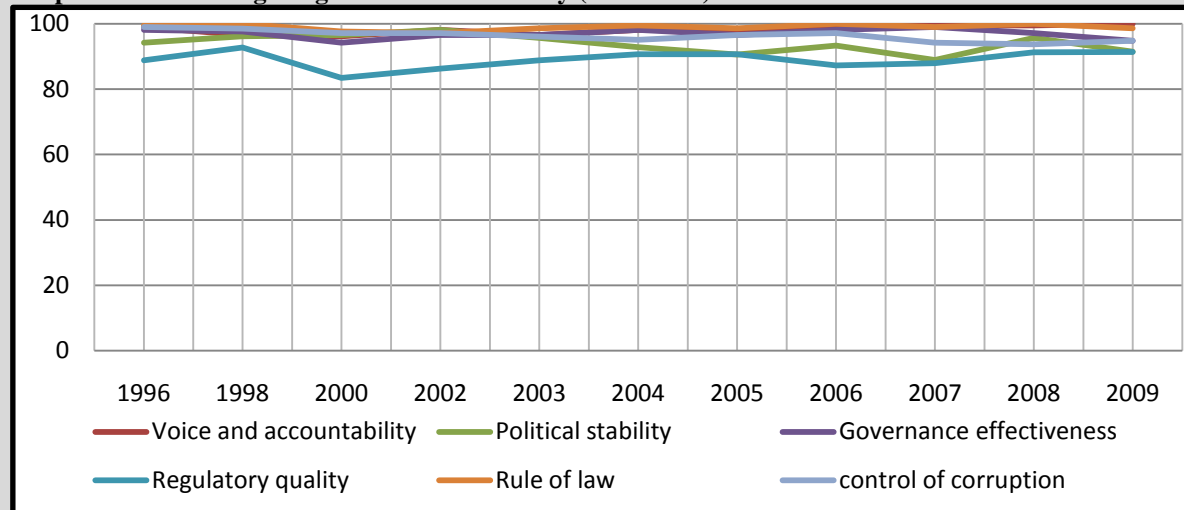
Argumentation seen above are enhanced by the high level of good governance reached by Norway in the last report of World Bank (worldwide governance indicators) – as known-governance indicators are shared into six groups:¹

a) Voices and accountability: expressed capture perception of the extent to which country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media the result for Norway is expressed in the following figure.

b) Political stability and absence of violence: measures the perception of the likelihood that the government will be destabilized or over thrown by unconstitutional or violent means,

¹ World Bank, Worldwide governance indicators, country's profile: Norway, 2009. Available on www: <<http://info.worldbank.org/governance/wgi/resources.htm> >

Graph 20: indexes of good governance in Norway (1996-2009)



Note own compilation

data: world bank, indexes of good governance: Norway, available on WWW:

<http://info.worldbank.org/governance/wgi/sc_chart.asp>

including domestic violence and terrorism. For Norway the evolution between 1996 and 2009 is expressed by the following graph.

c) Government effectiveness: captures perceptions of the quality of public services, the quality of civil services also degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitments to such policies. For Norway the result is exhibited in the following graph.

d) Regulatory quality: captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permits and promotes private sector development.

e) Rule of law: captures perception of the extent to which agents have confidence abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

f) Control of corruption: captures perception of the extent to which public powers is exercised for private gain, including both petty and grant form of corruption, as well as capture of the stat by elites and private interests.

We have gave a large part of the current study to the impact of governance and good institutional function, because we consider the former as the most important issue for any formulation and implementation of economic policies in general, more particularly in the OEC's where high oil windfalls face the policy-makers to rent-seeking and the effects of

“resource curse”, Norway as an exceptional case in the group of oil-exporters countries conserved the same institutional and good governance levels and improve it during oil-age, this can help to realize consensus around the future policies (the agreement of Norwegian citizens via parliament), less pressures and claims, the “trust on government” increased by a high level of transparency and public communication during implementation of policies make Norway successful in managing oil-revenues.

Hydrocarbon revenues in Norway as in many OEC’s accrue to the central government budget which emphasized the main role of fiscal policy certainly related to the excellent features explained above.

3.2 Prudent Fiscal Policy

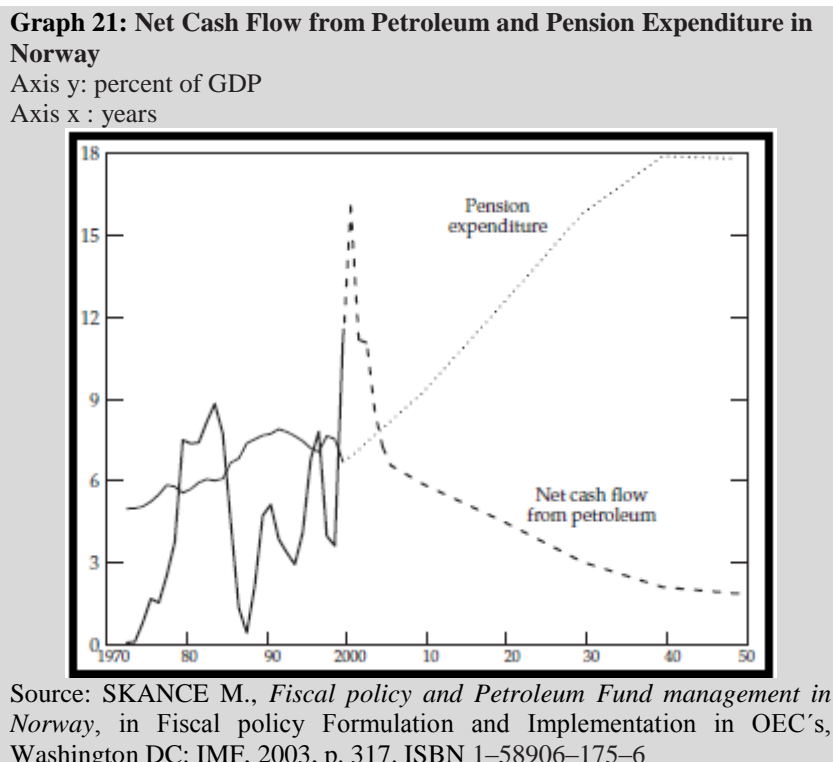
Norwegian government has developed an efficient fiscal system in order to, in one side, contribute to high employment, sustainable development, fair distribution of income and well-functioning welfare schemes. In other side, manage oil-windfalls efficiently. The system is based on Sovereign Wealth Fund (SWF), named Government Petroleum Fund-Global (GPF-G) which is a fiscal management tool to ensure transparency in the use of petroleum revenues, included in a coherent budgetary process (not isolated from it). In other words, the fund is kept under a general fiscal policy rules named by Norwegians “fiscal policy guidelines” formulated by the Norwegian Parliament (Stortinget)

3.2.1 The Fiscal Policy Guidelines

Fiscal policy in Norway faces the long-term challenges posed by a projected strong increase in pensions and health care and the decline in petroleum revenues (as shown in the graph below). In 2001, consensus was around the question to put in place a clear strategy for the use of petroleum revenues to help attain short-term stabilization and long-term sustainability objectives.

Fiscal guidelines were approved by parliament in 2001 (Report No. 29 to the Stortinget) and became effective with the 2002 budget. The guidelines hold the structural non-oil central government deficit over time to **4 percent** (equal to the expected long-run rate of

return in real terms)¹ of the assets in the GPF-G, formerly the Pension Fund, at the beginning of the fiscal year.



The structural non-oil deficit targeted by the fiscal guidelines excludes the budget's oil-related revenues and expenditures, and adjustments are made for cyclical fluctuations in mainland economic activity, deviations of transfers from Norges Bank from estimated normal transfer levels, deviations of net interest payments from trend, and technical accounting changes and extraordinary items that do not influence underlying budget balance developments. The guidelines are flexible: temporary deviations are permitted over the business cycle, or in the event of extraordinary changes in the value of the GPF-G.²

The fiscal guidelines were designed to meet several policy objectives:³

1. Intergenerational equity, petroleum extraction is viewed as a transformation, rather than the creation of wealth from natural resources to financial assets, the 4-percent guidelines preserves the real value of those assets;

¹ Below is a scheme which helps to understand the rules, see the page 55

² STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. P.47.

³ International Monetary Fund, *Norway: Report on observance of standards and codes- Fiscal policy Module*, Jun. 2009, No. 09/193. P.17. available on <www.imf.com>

2. Fiscal guidelines aim at isolating the annual budget from oil volatility, while maintaining a role of fiscal policy in macroeconomic stabilization. This explains the role of temporary deviations (it gives a flexibility to the rule in special cases);

3. Guidelines aim at mitigating the possible scenario of Dutch disease effects of spending oil revenues immediately; this also explain why the assets of the GPF-G are invested abroad in their entirety.

The structural non-oil deficit crossed 4 percent of GPF-G assets from 2002 to 2005 and has subsequently been below the 4-percent rule. This development is in accordance with the guideline, as the Norwegian economy went from a cyclical downturn in 2002-2003 to a strong cyclical downturn in 2006-2007. It means that the guideline has contributed to restrain non-oil deficit, decouple fiscal policy from oil market volatility, and financial assets were saved with a restrained the appreciation of the currency.

Several factors have contributed to the success of the fiscal guidelines:¹

1. The simplicity of the guideline rules which is easy to communicate. Consequently there are well understood, by broad segment of the public;

2. Allow flexibility in fiscal policy;

3. They are reinforced by high level of transparency: budget documents include detailed discussion and the derivation of the structural non-oil central government balance;

4. There has been broad political consensus and commitment in favour of the guidelines;

5. The credibility of the fiscal framework (i.e., the fiscal guidelines and the GPF-G) is supported by strong institutions, governance and accountability).

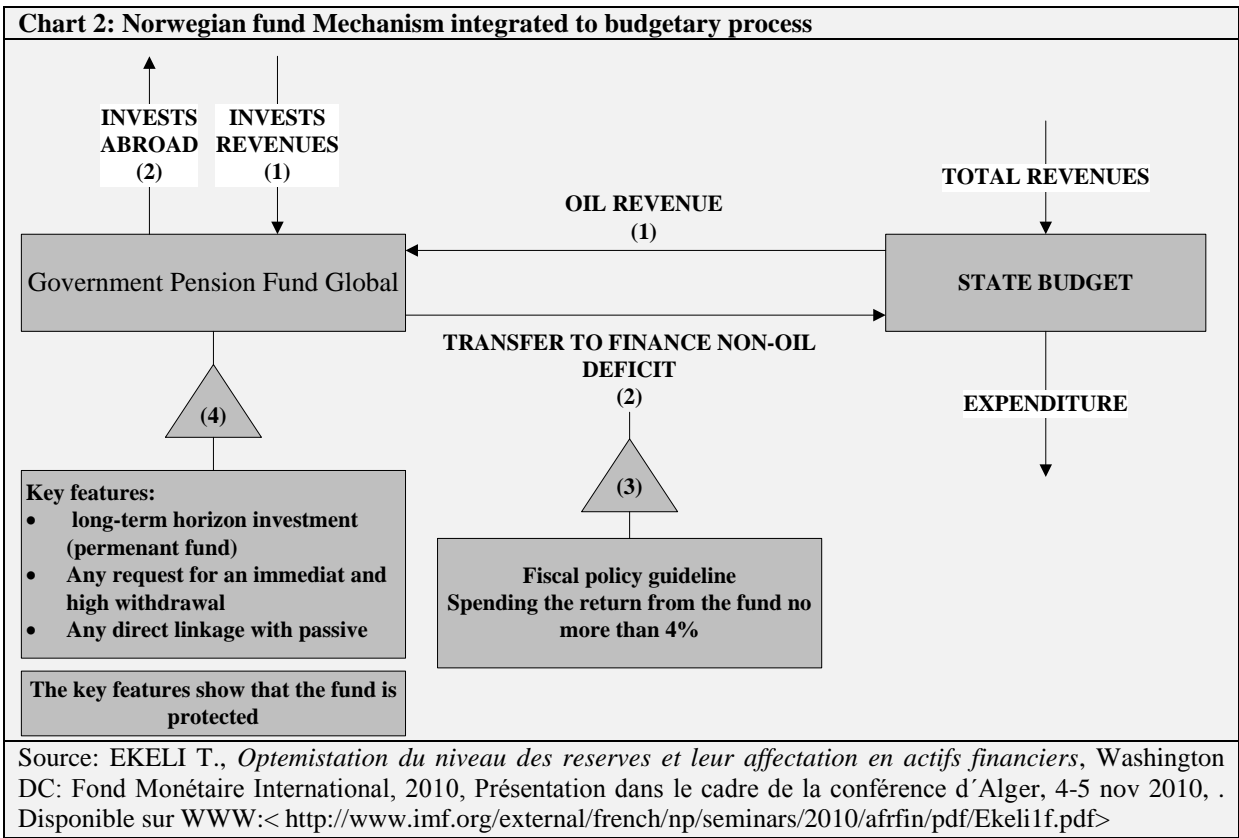
The guidelines as fiscal rules are completely connected to the fiscal policy and the Government Pension Fund- Global (GPF-G). It will be deeply analyzed in the following sub chapter.

¹ International Monetary Fund, *Norway: Report on observance of standards and codes- Fiscal policy Module*, Jun. 2009, No. 09/193. P.17. available on <www.imf.com>

3.2.2 Government Pension Fund-Global

The government Pension fund- Global was established on 1990 under the name of Government Petroleum Fund, but political pressures to spend more of the oil revenues led to its renaming. In 2006 as the GPF-G to explicitly meant to finance future pension payments in response to the ageing population. The fund reached the first position of 53 SWF's in 37 countries with an amount of USD 512 billion in 2010.¹

Fund Mechanism-integrated to the budgetary process:



The fund's income is the central government net cash-flow² from petroleum activities, and the return on fund investments is added to the same fund (1). The fund's expenditure consists, in one side, of an annual transfer to the treasury, corresponding to the amount of petroleum revenues used in the fiscal budget, to cover the non-oil deficit, with regards to the fiscal guidelines at keeping the central government structural non-oil deficit at 4 % of the assets of

¹ Norges Bank, *Fund tops 3 trillion kroner for first time*, 2010, available on <http://www.norges-bank.no/templates/article____77505.aspx>

² Net cash-flow = Net income (+) amortisation/depreciation (-) changes in working capital (-) capital expenditure

the GPF-G (3). In other side, the oil-windfalls are invested abroad, invests are regulated by the invests-guidelines (see below) (2). In this way assets are accumulated in the fund if and only if, there is a government budget surpluses including oil revenue. The fund mechanism is designed to provide a strong link between the accumulation of assets in the fund and fiscal policy; the conditions to use these assets are drastic (4).

Fund assets investment guidelines: As cited before the oil assets accumulated in the GPF-G are invested abroad (outside Norway) according to investment guidelines which are¹:

- Equity portion: 30-50 percent.
- Regional distribution: Europe 40-60 percent, the Americas 20-40 percent, Asia/Oceania 10-30 percent. In order to diversify portfolio risk geographically.
- Investment area: 28 countries (of which 7 are emerging markets as of January 31, 2001)
- Maximum ownership share in any one company: 3 percent
- Benchmark portfolio bonds and equities: based on well-defined market indices (FTSE all world index for equities and Schroder Salomon Smith Barney's World government bond index).
- Duration of the fixed income portfolio: 3 to 7 years.

The first observation is that the Norwegian government invests the fund assets abroad instead in Norwegian actives, the main arguments for this strategy are²:

a) *The need to stabilize the Norwegian economy:* by investing the GPF-G assets abroad, the central government will contribute to the substantial capital outflow and consequently, protect the domestic economy from the effects of high petroleum revenues more effectively.

b) *The need for a varied industry structure:* this is closely linked to the argument above. The investment of the fund abroad helps to avoid excessive real exchange rate appreciation (Dutch Disease), which in turn would lead to an industry structure that cannot be sustained when oil revenues start to decline.

¹ EKELI, T., *Optemistation du niveau des reserves et leur affectation en actifs financiers*, Washington DC: Fond Monétaire International, 2010, Présentation dans le cadre de la conférence d'Alger, 4-5 nov 2010, . Disponible sur WWW:

< <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Ekeli1f.pdf>>

² SKANCE M., *Fiscal policy and Petroleum Fund management in Norway*, in Fiscal policy Formulation and Implementation in OEC's, Washington DC: IMF, 2003, pp.334-335. ISBN 1-58906-175-6

c) *Diversification*: we mean the financial diversification; the risk of the fund's investment would be greatly increased if one did not take full opportunity of the diversification gains of international investments.

d) *Domestic investments could undermine the fiscal budget as a management tool*: the Fund consists of that part of petroleum revenues that are not used in the fiscal budget, and the return on this capital. Budgetary deliberations, Parliament decides the extent of central government expenditure. If, in addition the petroleum fund were used to finance domestic investments in, for example, infrastructure, the fund would effectively become fiscal budget number two. This would weaken the position of the fiscal budget as a political management tool.

The second observation is that the Norwegian executive found the just equilibrium by using the petroleum revenues to underpin the domestic economy and in the same time to protect the former from its negative macroeconomic effects.

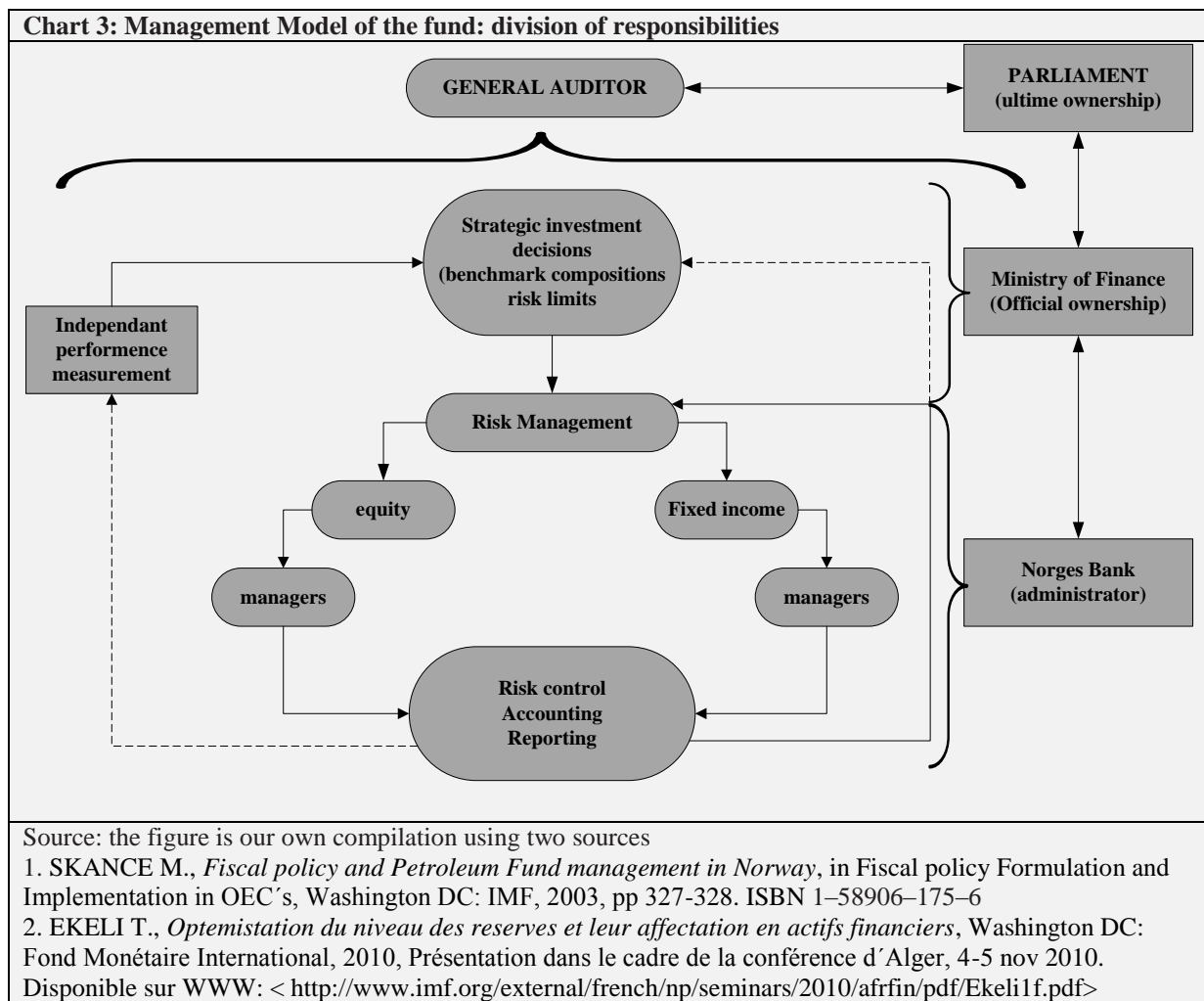
The third Observation is that all the investments abroad are controlled by an ethic council which forbidden investments in military industry or in non-ethic's sectors.¹

In Addition to the ethic council the fund is strictly organized, by sharing responsibilities over many owners as explained in the following sub chapter.

Organisation of the Fund :According to the Norwegian fund law there are three main owners:² (i) the parliament (ultimate ownership) give a hand to main orientation choices and the management of the fund, appoints the General Auditor who control the functioning of the fund and submit a report to the parliament. (ii) Ministry of Finance (official ownership) as responsibilities the Ministry fixe ceiling limit of risks and composition of risks portfolio, controls and evaluates the operational management, plan out an investment practices (iii) the Norges Bank (Administrator ownership), the National Bank is considered in it relation with the fund as special entity of the management activities management portfolio of active in the limit stipulated by the Ministry of Finance, in order to be under-efficient, the National Bank controls and communicates the risks.

¹ Ministry of Finance Norway, see the web site < www.regjeringen.no>

² EKELI T., *Optemistation du niveau des reserves et leur affectation en actifs financiers*, Washington DC: Fond Monétaire International, 2010, Présentation dans le cadre de la conférence d'Alger, 4-5 nov 2010, . < <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Ekeli1f.pdf>>

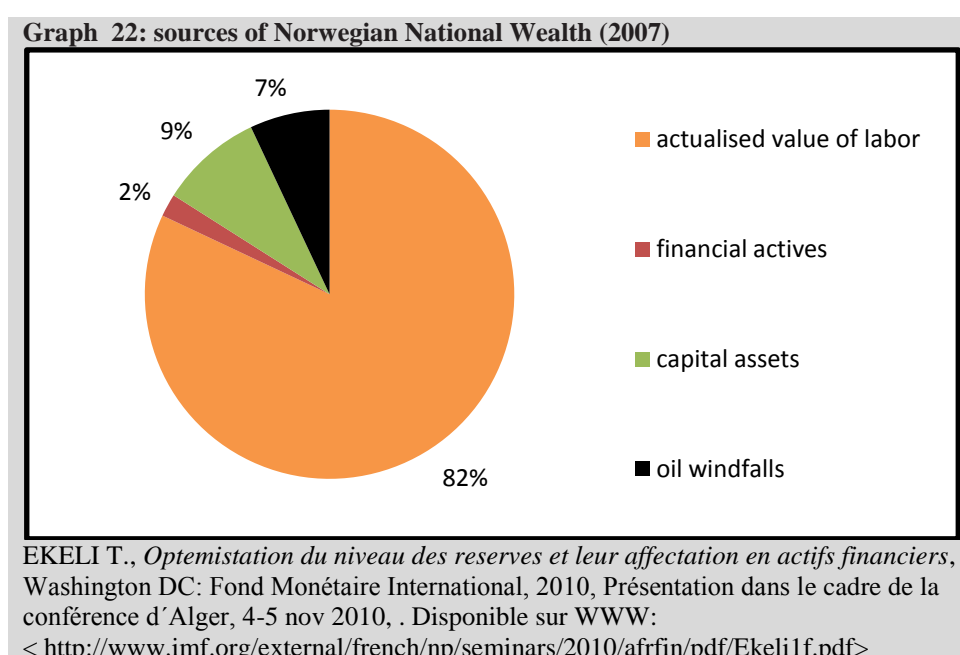


In spite of the co-ownerships of the fund, the Ministry of Finance plays the key role with regard to three major requirements (professionalism, accountability and transparency).¹ Norges Bank submit detailed annual reports on the management of the petroleum fund (name of companies which the fund's capital has been invested). Reports provide figures on total return and benchmark return. In addition the bank submits quarterly reports to the Ministry of Finance containing the main return and cost data, Norges Bank also reports to an independent company hired by the Ministry of Finance to make calculations of fund returns (public and published in internet for the need of transparency). In addition to the structure comes the auditing of the Fund and its management, which is done by the office of the Auditor General, the former is appointed by the Parliament (Stortinget) and reports directly to the this institution ensuring parliamentary control on fund operations.

¹ SKANCE M., *Fiscal policy and Petroleum Fund management in Norway*, in *Fiscal policy Formulation and Implementation in OEC's*, Washington DC: IMF, 2003, pp 327-328. ISBN 1-58906-175-6

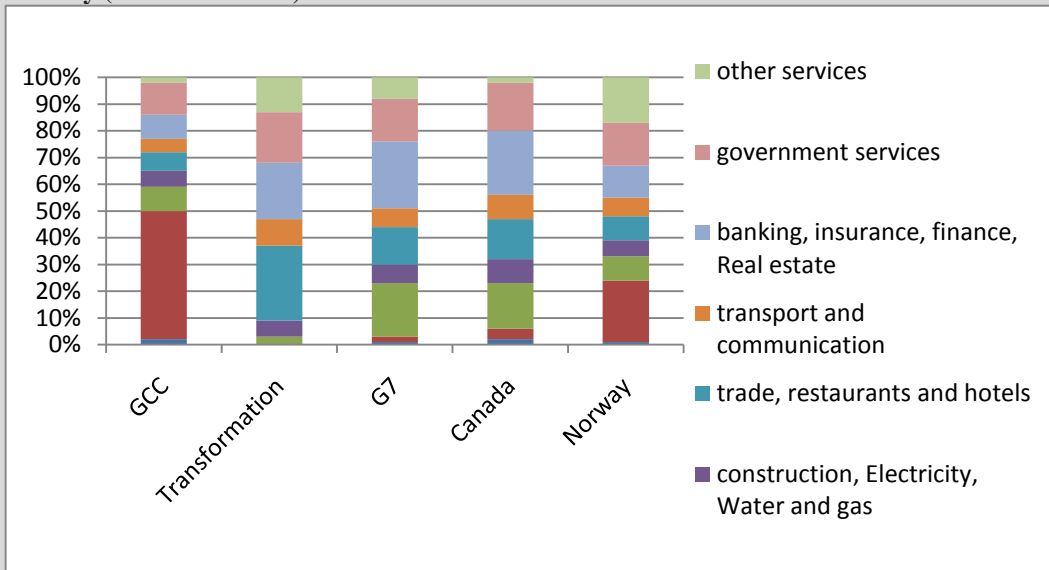
3.2.3 Appreciation of Norwegian oil policies

The experience of Norway is important in several points; with regards to the specificities of the country it may be difficult to “import the model”. Indeed, the high level of human capital, governance and transparency and a solid macroeconomic stability helps Norwegians to maintain the same level of diversified economy before oil-age by escaping the deindustrialisation of the economy (see the figure above), the role of successive governments is important by an intelligent formulation, implementation and the management of the macroeconomic mix in general and fiscal policies in particular.



The experience of Norway also exhibits *first*, that oil revenues are considered as different from other revenues. For that reason it is useful to disconnect them from government budget in the same time improve the questions related to governance. *Second*, the consensus of the national public view is important for any strategy insure the viability of public saving and its instrument (investment strategy in physic or financial assets). *Third*, the strategy presented in Norway responds to the Norwegian objectives (e.g. ageing population) but in the same time offers precious lessons for the other oil-exporters countries, especially that the principles of governance are universal. Finally the solidity and viability of the non-oil sectors are the key issue for national wealth.

Graph 23: diversification of sectors under GDP share 2005 from Gulf countries (least diversified) to Norway (most diversified).



Source: SHEDIAC R., ABOUCHAKRA R., *Economic Diversification: the road to sustainable development*, United States of America: Booz and co, 2008.

4 The case study of Algeria

Algeria officially named the “People’s Democratic Republic of Algeria” is one of the fifth Maghreb counties.¹ Situated in the North West of Africa in the southern part of Mediterranean Sea, Algeria with its 2.381.741 Km² is the second country by area in Africa (after Soudan) and the tenth in the world. The Algerian population reached 34.895.470 people (January 2010), about 90% of Algerians lives in the north coastal area; the minority who inhabit the Sahara are mainly concentrated in oasis. The population in Algeria is young, according to the last census 28.1% (from 0 to 14 years), 67.1% (from 15 to 64 years) and 4.8% (from 65) with an average of 24.9 years.

Algeria is a presidential political system with a bicameral parliament, with Abdelaziz Bouteflika as the head of state and Ahmed Ouyahia as its actual prime minister. It is a unitary state with administrative subdivision on two levels known as counties (Wilayas) and municipalities (Baladiyas), the official languages are Arabic and Tamazight (the original language of Algeria).

Algeria recovered its independence after a long and dramatic era of French colonization (1830-1962), considering Algeria as a province (part of France), its economy was completely dedicated to the wealth of “Métropole”. After the eight years Revolution (1954-1962),² Algeria acceded –according to Evian’s accords- to the independence in 05 July 1962 and inherited a country which was firstly agricultural with some small industries.

The first major discovery of oil in Algeria was made in 1957, by 1958; the country’s main oil field at Hassi-Messaoud, in the east central region was coming on-stream. Gas production began in 1961 at Hassi-R’Mel, just 500 kilometers south of Algiers (the capital city). While the country has the eleventh largest oil reserves in the world, it is particularly rich in condensates and natural gas³; indeed, it possesses the world’s fifth largest proven natural gas reserves. By the late 1990s, natural gas constituted 70 percent of Algeria’s recoverable hydrocarbon reserves, and crude oil 30 percent. Until the mid-1970s, massive redistribution, made possible through the availability of oil revenues. Oil has been discovered in 1957, and by the end of 1960s it became the principal source of export income for the government.

¹ Maghreb (Morocco, Eastern Sahara, Algeria, Tunisia, Mauritania, Libya) means in Arabic “the occident” comparing to the “Machrik “ the oriental part of Arabic World including Egypt and Middle-east countries

² According to some analysts the fact that France in that era focused in Algeria, and made difficult the access to the independence despite others colonies was the first resource curse effect in Algeria.

³ Source: LOWI, R.M., oil wealth and the poverty of politics: Algerian compared, Cambridge: Cambridge University Press, 2009, P83, ISBN 978-0-521-11318-2

Between 1966 and 1974, the oil sector and all the other concerns were completely nationalized.¹

From the Nationalization of the hydrocarbon sectors Algeria has experimented several strategies of diversification by investing the hydrocarbon revenues to others sectors as in agriculture and industry unfortunately unsuccessful because the Algerian economy stills dependent from oil revenues, but this highlights the earlier aware of the government to the risks of depletion which can compromise the future of Algeria.

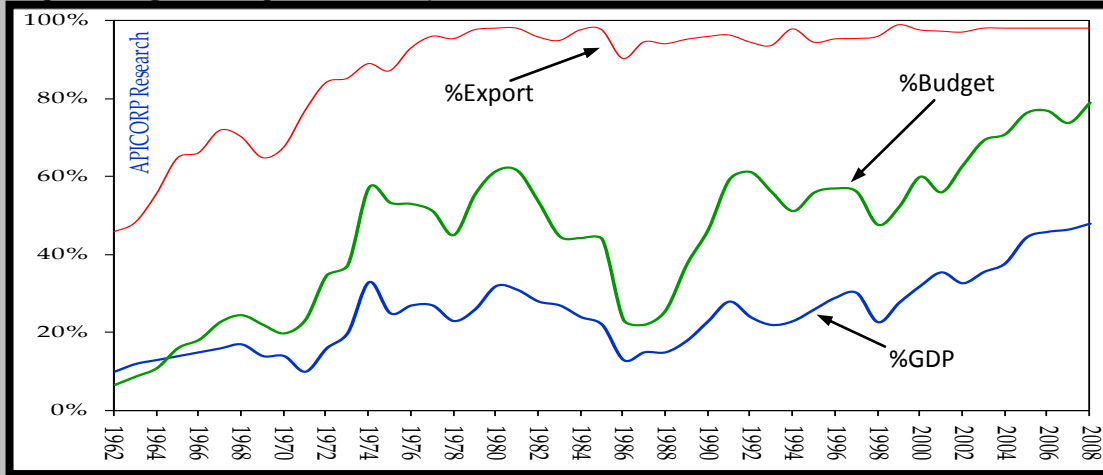
Today the hydrocarbon sector remains the principal industry of Algeria's economy; the hydrocarbon sector makes up approximately 48 percent of total GDP, 79 percent of total government revenues and 98 percent of total export.²(See the graph 24) Which challenges the government as a main central owner of hydrocarbon revenues especially in the terms of depletion. The graph 25, illustrates three critical horizons (2015: oil and gas will reach a maximum and as consequence exports start declining, 2030: after a 15-years of plateau, production will start falling off, 2050: production will be not able to cover the domestic demand).

During the last ten years of this tenure, soaring hydrocarbon exports have helped Algeria's economic recovery. The country experienced steady growth, moderate inflation, less severe unemployment and strong fiscal and external position. In addition, public debt has been massively reduced and large net savings accumulated. However, while validating these positive trend, the International Monetary Fund has singled out economic diversification as the most pressing challenges policy makers, for that reason and regard to the Norwegian experience, we will try to analyze the economic diversification environment in Algeria (macroeconomic trends, human capital and governance), we will also try to highlight the efforts made by the government to tighten the fiscal policy by establishing -as in Norway- Petroleum Fund and finally what can be done in the Algerian economy (recommendations).

¹ Oil and gas and all concerns were nationalized after a long events serial between France and Algeria: Algeria focused on the argument that the foreign oil companies did not do invests efforts to develop the oil and gas sectors as stipulated in anterior accords, France reacted by stopping its imports of Algerian wine and as response to this decision Algerian executive by lifting vineyard, consequently industry surrounding this sector was compromised for more information see the following source BENACHENHOU A., *la fabrication de l'Algérie*, Alger: Alfa Design, 2009, pp.9-28, ISBN 978-99847-886-41-0

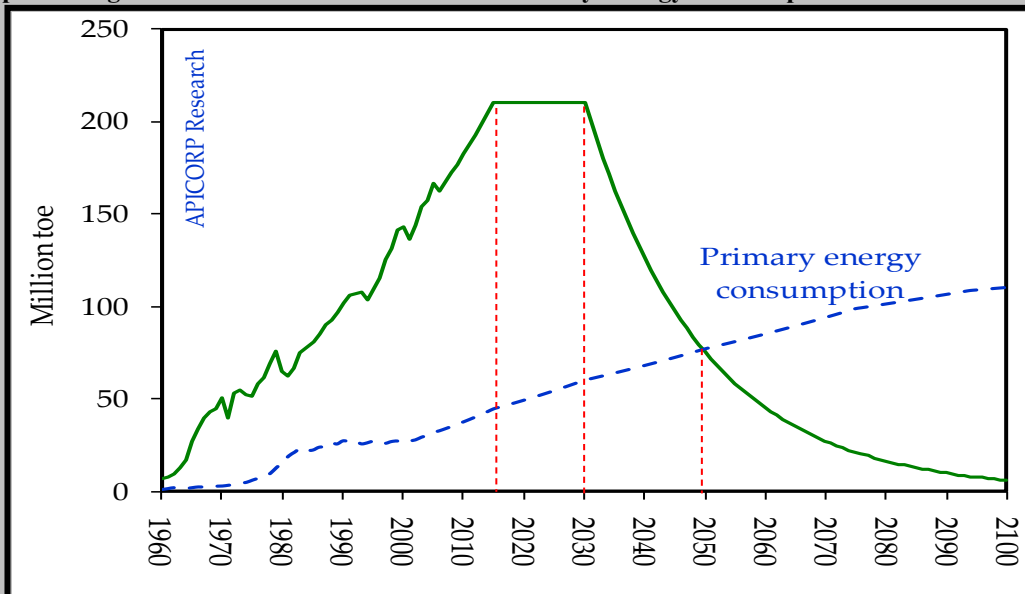
² AISSAOUI, A., *the challenges of diversifying Petroleum dependant economies: Algeria in the context of Middle East and North Africa*. Middle East Economic Survey, June 2009, Vol. II, No 22. p.3.

Graph 24: Algeria's Dependence of Hydrocarbon (1962-2008)



Source: AISSAOUI A., the challenges of diversifying Petroleum dependant economies: Algeria in the context of Middle East and North Africa. Middle East Economic Survey, June 2009, Vol. II, No 22. p.3.

Graph 25: Algeria's Petroleum Production and Primary Energy Consumption Profiles



Source: AISSAOUI A., the challenges of diversifying Petroleum dependant economies: Algeria in the context of Middle East and North Africa. Middle East Economic Survey, June 2009, Vol. II, No 22. p.3.

4.1 Mitigate Economic Diversification Environment

The last decade was characterized by a relative macroeconomic stability

1. Good level of macroeconomic stability:

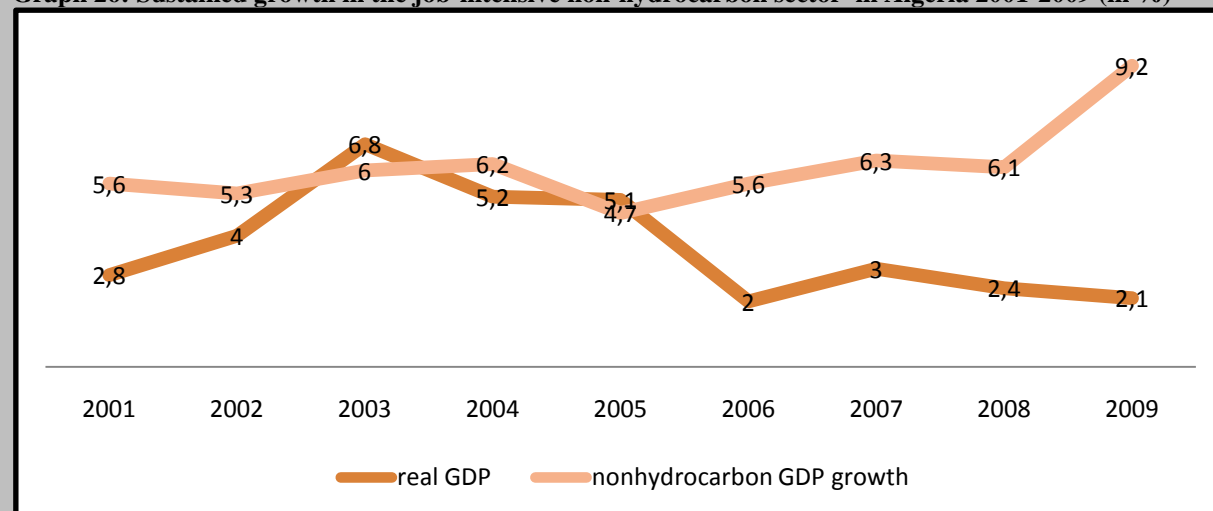
“Algeria has enjoyed several years of strong economic performance driven by public spending and was in a relatively sound position to face the global slowdown [...] despite the recent recovery of oil prices and the improvement of medium term financial perspectives, the

economy remain to depend on export (and export from hydrocarbon product), unemployment is still relatively high, and productivity and the business climate lag behind main trading partners [...] Non hydrocarbon growth and job creation are largely sustained by public spending.”¹

Over the last decade, annual overall NHGDP (non-hydrocarbon GDP) growth average respectively close to 4% and 5% largely driven by public spending (expansionary fiscal policy). However, it is important to remain the difference between the total GDP including the incomes of hydrocarbon export and the non hydrocarbon NHGDP, the latter expresses the real economic performance of the country because insulate the hydrocarbon revenues from the non-oil sector.

NHGDP growth reached 6.1% in 2008, mainly driven by the PIP (Public Investment Program), higher NHGDP in 2009 attempt 9%, reflecting a good agricultural harvest. (See the graph 26 below)

Graph 26: Sustained growth in the job-intensive non-hydrocarbon sector in Algeria 2001-2009 (in %)



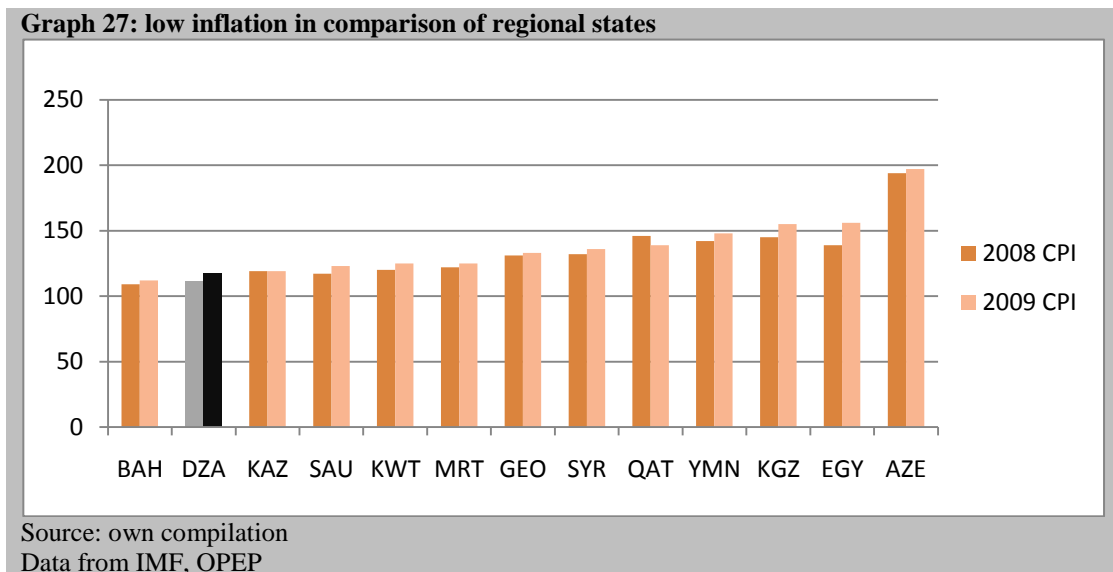
Source: own compilation
Data from IMF, OPEP

Algeria’s price stability has been mixed, but it now appears to be under control, recently the headline inflation reached 5.8% -the lowest one in the region- due to the following points:

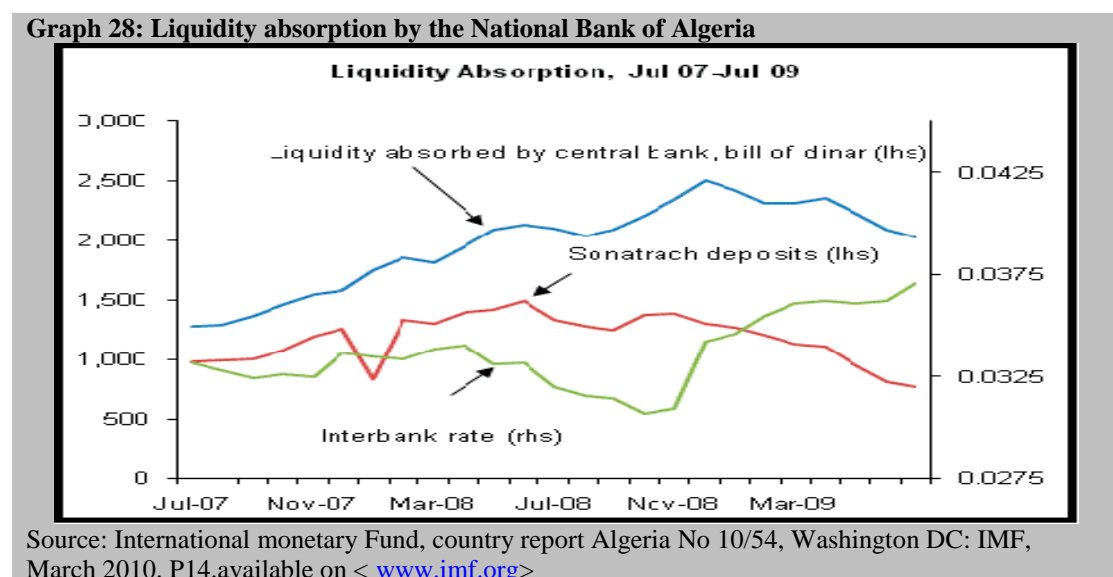
- An effective liquidity absorption policy by the central bank of Algeria as response to the high government spending in infrastructure (see the graph 27).
- Administered prices for food and constant domestic energy since 2004.

¹ International Monetary Fund, Washington DC: IMF, Country Report Algeria No.09/108. P.4. available on <www.imf.com>

- High import content of domestic demand (in the case when the price of one product grows the stat import from abroad to break the price).

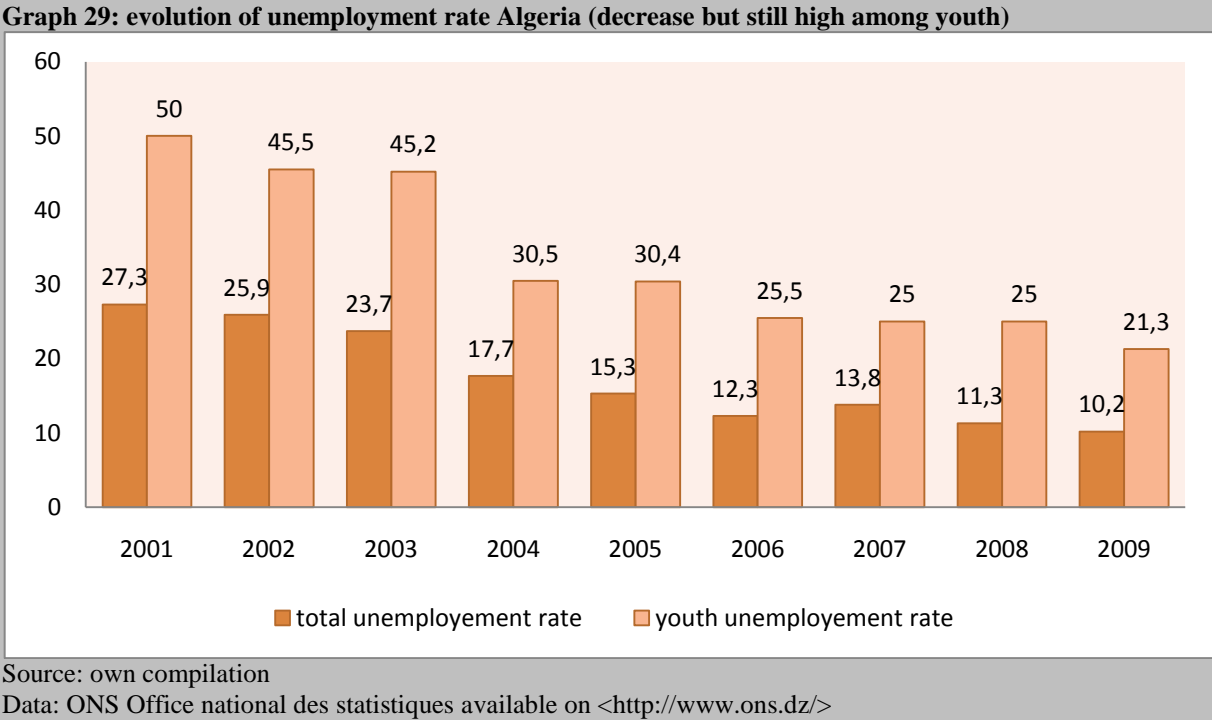


The heavy reliance of Algerian economy from the oil sector, especially that oil prices are so variable made difficult for the government to avoid budget deficit, consequently the government borrowed from the public, increasing the financial deregulation, particularly the freeing up of interest rate and the introduction of short term financial assets. The target of this policy was to fund a budget deficit without expanding the money supply, although the desirable effect on inflation grounds, it had also a negative effect of raising interest rate and crowding out private investment with long term adverse effects on growth.



Recently, although the high public spending, the SONATRACH¹ investment and further prepayment of government securities has increase banking system liquidity, the National Bank has been able to limit its impact on inflation, including well defined liquidity absorption facilities and flexible exchange rate management.

Unemployment rate had sensitively decreased, from 29.77% in 2000 to 10.2% in 2009 which suggests the under-utilization of human resources. In spite of the fall of unemployment rate, it still huge among the youth category; around 73% of total unemployment rate as exhibited in the following graph.



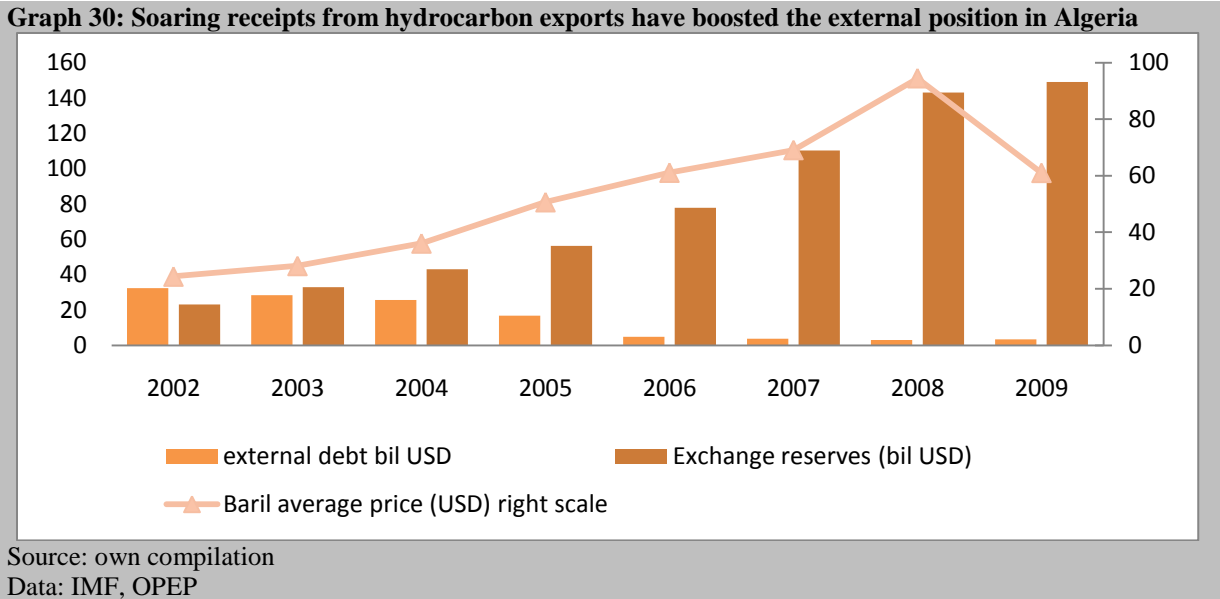
In Algeria the national agency of employment (ANEM) is the official organism dedicated to encourage the employment growth. The available conditions to be registered as a person looking for job are:²

- To be registered as unemployed in one of the departmental regional or national agencies of employment;
- To be aged 18 and over;
- Algerian nationality and to be free from the military service;

¹ Note: SONATRACH is the Algerian National Petroleum Company
² Agence Nationale de l'Emploi, information available on <<http://www.anem-dz.org/>>

However, the statistics about unemployment are delivered by the National office of Statistics (ONS), using social census by sampling¹, which means that the final data is not completely precise. The evaluation of unemployment and policies of employment are not conformed to the employment system in developed countries. We have already seen the effect of employment system as an automatic stabilizer of the economy during the economic cycle.

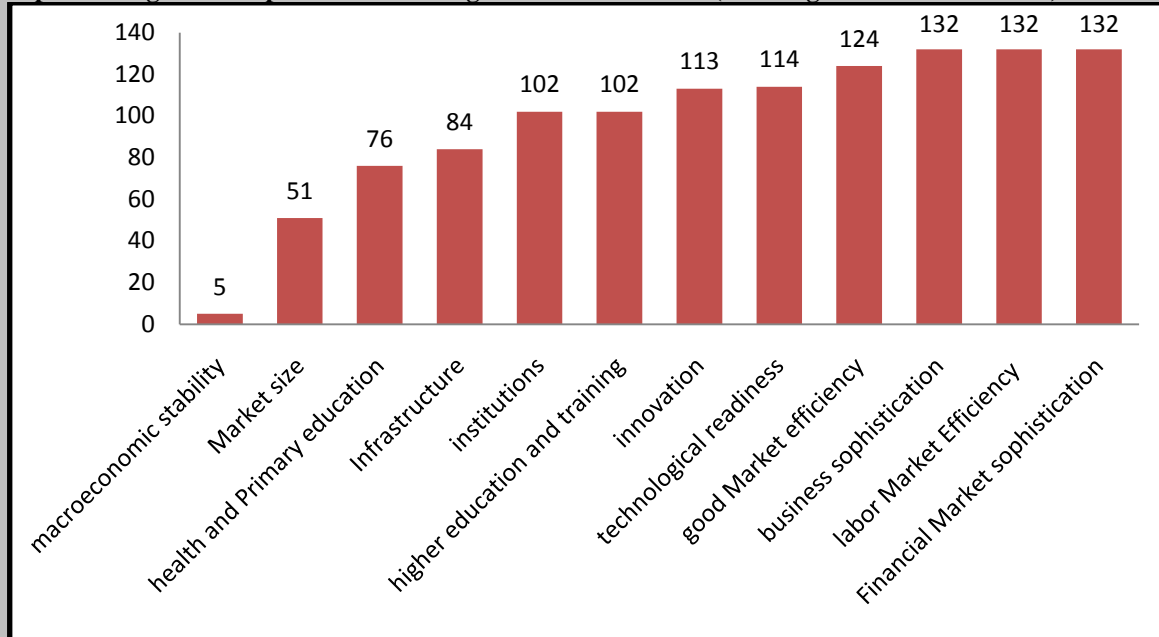
In other side, the good share of hydrocarbon export revenues was saved in exchange reserves; in oil stabilization fund officially called “Fond De Régulation des Recettes” (FRR) or used to reduce drastically the external and local debt. Indeed, the present fund permitted first to reimburse as domestic as external debt by anticipation after negotiation respectively with the Paris Club (states) and London Club (banks). The figure below shows the use of oil windfalls to reimburse external debt and the growth of exchange reserves which reinforced the external position of Algerian economy.



The excellent macroeconomic position of Algeria ranked by the World Economic Forum (2008) as the 5th country in term of macroeconomic stability, this performance is mitigated by other competitive factors related to the lack of infrastructures, innovation and sophistication. Areas of particular concern are the perceived poor functioning of goods, labor and financial markets as highlighted in the following figure.

¹ The used methods are explained in the site of the National Office of Statistics see <www.ons.dz>

Graph 31 : Algeria Competitiveness Strengths and Weaknesses (Ranking out of 134 countries) in 2008



Source : International Monetary fund, Country Report: Algeria No. 09/108

The former figure demonstrates also a relative weakness in the human capital and failure in Institution. The following sub chapter will deal with, first, the degree of human capital and second, the level of governance and good institution

2. Middle level of human capital:

Although high spending and investments in the sectors of education and health the results still mitigated. The share of education in total expenditure increase over years especially in the last decade, the real expenditure on education grew strongly by over 56 percent in period 2000-2005. Considering education in its three line ministries (Ministry of National Education, Ministry of high Education and the Ministry of Professional formation) the share of total expenditure is relatively high (2007: 24 percent, 2008n16,14 percent, 2009 21,39 percent, 2010 20,88 percent, 2011: 23,89 percent).¹

The report of World Bank submitted on 2007 has notified the following points concerning Education in Algeria:²

- Centralization of budgetary decision within the school education in the Ministries with the Help of Wilayas and Municipalities which is reasonably effective in equitable

¹ Own calculation according to information on web site of the Ministry of Finance see <<http://www.mf.gov.dz/>>

² World Bank, Algeria: Public Expenditure review, assuring high quality of public investment, Washington DC: World Bank, pp 112-140 also available on WWW <http://siteresources.worldbank.org/INTALGERIA/Resources/ALGERIAPER_ENG_Volume_I.pdf>

geographical allocation of resources, in the same time it is not conducive to efficiency in expenditure management, Algeria has a reliable, fairly up-to date system for data collection that reaches right down to the school level. However, variables such as reduced repetition and dropout and improved pass rates are not used to monitor performance or to determine incremental budget allocations. As a result, institutional budgets are not linked to broader educational objectives.

- Universities have limited autonomy over course and the number of students, teaching programs field are developed by the national education committee.
- Budgets are not linked to outputs and outcomes, there are governed with the same applicable rules to the government budget.

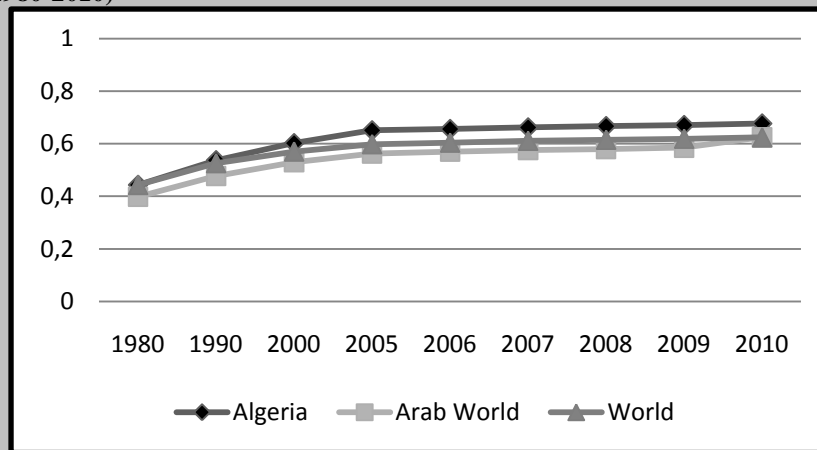
Despite of the negative observations, Algeria has achieved significant success in universalizing primary education and increasing access to other levels of Education financing entirely by public spending.

In health care sector, Algeria have made a considerable efforts to ensure access to health services but significant challenges remain, especially concerning geographical access to health facilities at 98 percent and the entire population has financial coverage for health care services which make the health indicators improved drastically. However, the delivery of health care still inefficient, the overall quality of services is less than optimal and inequities prevail (lack of equipment, drugs and medical staff). Some weakness are in the budget process, the share of health expenditure still relatively low around 5,2 percent and weakness related to budgetary performance undermine the returns of huge investments. According to the ranking of United Nations, (human Development Report), Algeria Offers the following figures.

The first figure shows that the trend of HDI in Algeria increased over years and is higher than the world level and much higher than in other Arabic countries.

The second Figure demonstrates that the level of health care has been improved, weakness are in Education and Income (standard of living). Comparing to Norway, Algeria should improved the sector of human capital.

Graph 32: comparison between Algeria, Arab World and World HDI (1980-2010)

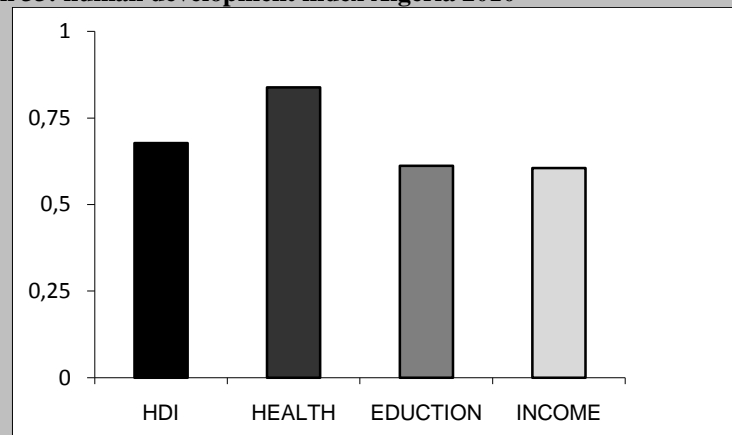


Source: own compilation.

Data: United Nations development Program, Human development Index: Norway (country profile), 2010. Also available on WWW:

< <http://hdrstats.undp.org/en/countries/profiles/DZA.html> >

Graph 33: human development index Algeria 2010



Source: own compilation.

Data: United Nations development Program, Human development Index: Norway (country profile), 2010. Also available on WWW:

< <http://hdrstats.undp.org/en/countries/profiles/DZA.html> >

3. Institutions and Good Governance:

We have already mentioned the institutions and good governance as a key role of the formulation, implementation and managing policies in general, and economic policy in particular, the experience of Norway have also demonstrated how the level of governance can help to insure a consensus about the government action, especially those related to deal with oil windfalls, as result its makes less strong pressures and claims, and the “trust in government” is increased by transparency and the efficiency of public investments guided by the control of independent institutions. The notable positive level of governance underlined in Norway has a negative trend in Algeria. This is mainly due to regrettable events; following

the independence from France in 1962 the Algerian political state espoused socialist principles, its central planned economy repressed the market and sought to promote rapid industrialization in order to underpin the position of “State Patron” and state Welfare (Education, Health care, housing and providing employment expanse) especially during positive oil shocks the first 1973 the second 1979 while the third was negative which cut more than 15 percent of GDP, in the latter 1988 the economic situation was explosive because the state was unable to respond to a social needs of the population this conduct to a violent social protests in 5th October 1988. Consequently the political system changed with the adoption of new constitution (multiparty, freedom of expression and free elections) but the leading opposition party which was “Islamist” based, dominated the election results. The army intervened to suspend the constitution only three years after it has been introduced, the outcome was ten years of armed conflict and corroded political consensus. This unpropitious back ground in the early 1990s of declining law and order and contracting economy.

Although the gradual return to the civil peace and the reestablishment of the constitution in 1996 with all the institutions, the former especially the Parliament still weak comparing to the executive (president and Government), consequently the parliament is unable to play a role of “Balances of power”, the parliament actually is constituted by a Presidential coalition and some other parties which not constitute the majority (the three parties coalition FLN-RND-MSP represents the majority of 246 from a total of 385).¹ Idem in the Senate, where the president have right to appoint 1/3 of senator called the (the presidential third). Unfortunately this political situation weakens the position of Algeria, country who was classified as an authoritarian state² despite its stability comparing to the 1990s, and despite the freedom of expression and ideas.

This situation may be accentuated by being a rentier state which allocate the oil windfalls to the society and keep the Algerian citizens far from the public debate, the weakness of taxation system is perceived as the consumption of oil windfalls trough reduced taxation, this weakens demands for representation and democratic accountability.³ In Algeria the taxation system is concentrated on 04 subsystems:

- Tax of Global revenue.

¹ See the web site of the Algerian Parliament (Frensh, Arabic) on WWW < <http://www.apn-dz.org/>>

² See the Democracy Index Report 2010 available on WWW:
< http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf>

³ AUTY R.M., *Third time lucky for Algeria? Integrating oil rich country into the global economy*, the International Journal of Resource Policy: Elsevier, 2003 p.38

- Tax of firms benefits.
- Tax of professional activity.
- VAT (value-added tax)

But the share of total non-hydrocarbon taxes to total revenues still relatively negligible; we have calculated the share on percentage according to the IMF Report and summarized in the following table.

Actual (% of total revenues)				Projection (% of total revenues)				
2006	2007	2008	2009	2010	2011	2012	2013	2014
19,80	20,79	18,58	31,65	31,53	31,89	32,58	33,29	34,23
Data: International Monetary Fund, Country report: Algeria, Washington DC: IMF, March 2010, p 24. Available on <www.imf.org>								

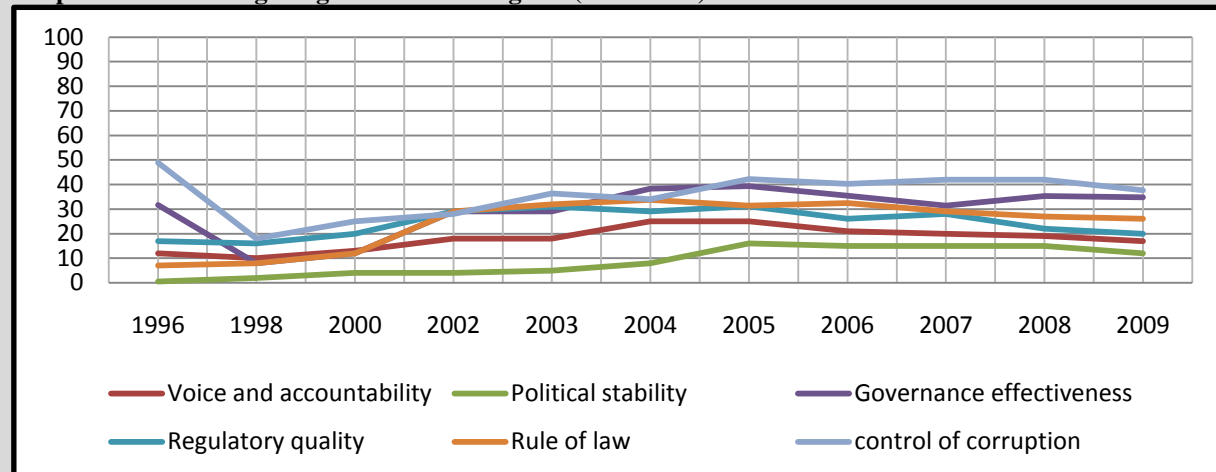
The actual and projection share of tax revenues to total government revenue shows that the share is far from the 90 percent of taxes revenues in the industrialized economies.

Weakness of taxation system apply the lack of transparency especially the openness of budget, the last report of Open Budget Index (2010) gave the score of one point from 100, which shows that the government provides the public with almost no information on central government budget and financial activities assessed by the survey. This makes it virtually impossible for citizens to hold the government accountable for its management of Public's money. According to the same organism the situation of the eight key Budget documents are summarized in the table 5 (next page).

The report mentioned also as "weak" the legislation which can help to make more open the budget and also a supreme Audit institution (SAI). A non-transparency in budget can apply a lot of assumptions as the high level of corruption, inefficiency of spending or weak methods of establishing the budget or all together.

Document	Level of Information Grade	Publication Status
Pre-Budget Statement	E (0-20 scant information)	Produced, Not Published
Executive's Budget Proposal	E (0-20 scant information)	Produced, Not Published
Enacted Budget	B (60-80 significant)	Published
Citizens Budget	E (0-20 scant information)	Not Produced
In- year report	E (0-20 scant information)	Not Produced
Mid-Year Review	E (0-20 scant information)	Produced, Not Published
Year-End Report	E (0-20 scant information)	Produced, Not Published
Audit Report	E (0-20 scant information)	Produced, Not Published
Source: Open Budget Report, Algeria, 2010. Available on <www.openbudgetindex.org>		

Graph 34: indexes of good governance in Algeria (1996-2009)¹



Note own compilation

data: world bank, indexes of good governance: Algeria, available on WWW:

<http://info.worldbank.org/governance/wgi/sc_chart.asp>

The graph 34 show the levels of good governance and institutions including the same indicators used for the case study of Norway underpinned the arguments employed above.

The figure established that the indexes were improved but still relatively low, this can weaken the efforts made by the same institutions to maintain macroeconomic stability and sustainable development despite the low result in term of transparency, governance and institutions the executive have, since the last decade sophisticated the manner to deal with oil windfalls by hedging and conservative oil price assumption.

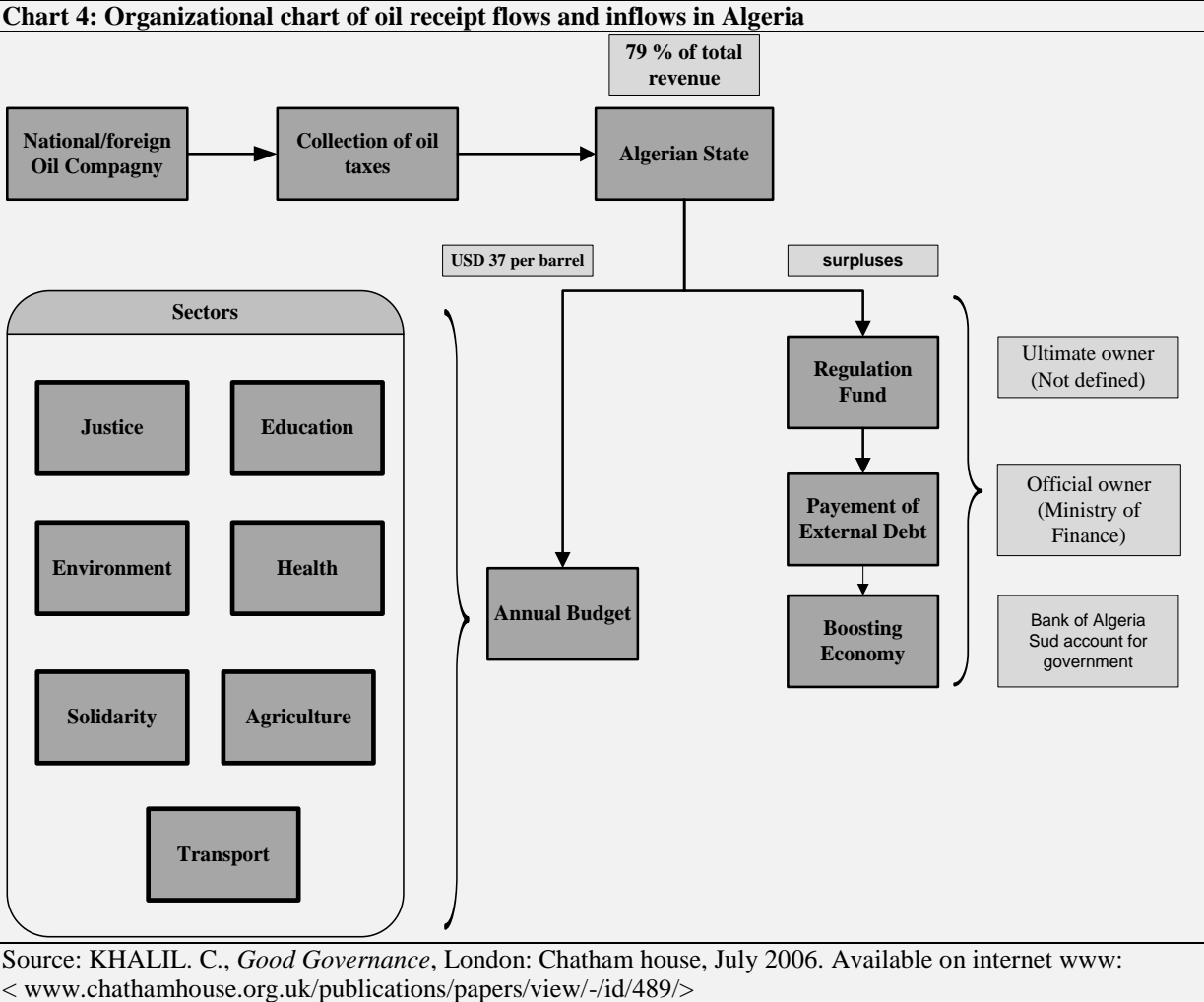
4.2 Rationale Fiscal Policy

We have already seen how sophisticated is the fiscal policy in Norway and how the latter maintain a kind of equilibrium between using oil windfalls and keep it far from the government budget, this equilibrium is concreted by the establishment of a flexible fiscal guidelines which constrain the executive to abuse from oil windfalls and focus on non-oil deficit. Norway has also avoided the negative impacts of integrating oil revenues on government budget by investing them abroad with accordance to the investments guidelines. The case of Algeria may be different; deficit on infrastructure makes the Algerian executive expand the public investment by spending the hydrocarbon windfalls in different sectors. Unfortunately the public investments don't have the positive impact (see annexe 1). Although this arguments, the fiscal policy in Algeria knew since the last decade some sophistication

¹ The explanation of each index is the same as provided in the case of Norway see the pages 50-51

comparing to the anterior periods, mainly based on the introduction of conservative oil price assumption as a fiscal rule and the establishment of the oil fund

1. Conservative oil price assumption and the oil Fund: The following organizational chart summarized as well receipt flows to and from the oil Fund with connection to the government budget.



The fund was established officially in 2001 by the initiative of the Minister of Finance,¹ the main issues were to rebuilt infrastructure destroyed by several years of terrorism, reimburse the external and internal debt and finally unless the oil price volatility impact on the public budget Revenues. Regulation Fund (FRR) is considered as a government sub-account at the central bank (Algerian Bank), it is held on Algerian currency (dinars) with a low interest rate. Algerian government receives revenue from hydrocarbons via oil-taxation (oil taxation accrues mainly from oil national company SONATRACH and other foreign companies), the government establishes the budget according to oil price assumption (actually USD 37 per

¹ BENACHENHOU, A., *La fabrication de l'Algérie*, Alger: Alpha Design, 2009, p. 108 ISBN 978-9947-886-41-0

barrel) the surpluses inflows automatically to the oil Fund, outflows are used for debt amortization (see the graph No. 30) and the financing of the remaining non-hydrocarbon deficit. The FRR is currently used only for medium-term stabilization not as long-term tool for saving and investment.

Some observation should be done about the organizational scheme:

a) Comparing to the Norwegian organization of them GPF-G, the Algerian organization seems miss some cases with regard to the budgetary process; for the need of annual budget establishment the Ministry of Finance receives future expenditure needs from different line ministries, local administrations and state agencies, according to the oil assumption price the budget is built and submitted to the Parliament in its two houses, after negotiation and rectification the budget is adopted, during the fiscal year the Parliament have right to ask about the advancement of the budget, the Parliament is also able to convene the President of Auditing Court (equivalent of General Auditor in Norway) who is appointed by the President of Republic instead by the Parliament in Norway, the President of Auditing Court report simultaneously the investigation, observations, estimation of his institution about public finance to the President and to the Parliament provided during one year, the law is clearly strict about this. But in practice, the annual report was established only one time since the creation of Auditing Court (1980) the first and last report was in 1997 and was incomplete due to the lack of its observation and the absence of conclusion, since this year any report was published.¹ In addition the Regulation Fund has no ultimate owner as in Norway (the Parliament) which makes the responsibilities over the Fund not clearly defined. In addition and during a latter Parliamentary session one deputy asked the Minister of Finance about the necessity to clarify who is the ultimate owner of the fund, the answer was astounding “...don’t worry the Fund is between the hands of the President.” This demonstrates the lack of institutional control, accountability and transparency. According World Bank Report (see the report of World Bank No. 55061-MNA)² confirms that exists powerful groups which handicaps any transparency reform, the world Bank appointed the “Walis” (Governors of Provence) who wish to retain them traditional power and influence over expenditure,

¹ HADJAJ, J., *Crée il y’as trente ans il était une fois la Cour des Comptes, Pourquoi Bouteflika ne rend-t-il pas public le rapport annuel*, le Soir d’Algerie, 12 avril 2010, available on [www:<http://www.lesoirdalgerie.com/articles/2010/04/12/article.php?sid=98472&cid=11>](http://www.lesoirdalgerie.com/articles/2010/04/12/article.php?sid=98472&cid=11)

² SHAND, D., TOMMASI D., *Public Management Reform in the middle east and North Africa*, Washington DC: World Bank, Report No. 55061-MNA. Available on [www:<http://siteresources.worldbank.org/EXTGOVANTICORR/Resources/3035863-1285103022638/MENARegionalPFMOverviewPartIFinal.pdf>](http://siteresources.worldbank.org/EXTGOVANTICORR/Resources/3035863-1285103022638/MENARegionalPFMOverviewPartIFinal.pdf)

powerful state enterprises who are keen to preserve their autonomy and the Army. All this makes reform implementation difficult and complex, the Bretton-Wood institution concludes that reforms will not bring any enduring change because some see an opportunity to regain control over the sector policy, which tends to be defined by other players such as the Governor. Other my perceived increased transparency or streamlining of budget execution controls as a threat to their private interests.

b) The overview of the scheme shows the duplication of the Fiscal policy by the oil Fund; Annual budget (current and capital expenditure), Oil Fund by investing in infrastructure (current and capital expenditure).

c) Except the establishment of budget according to oil price assumption it doesn't exist any other fiscal rule which constrain executive to spend oil revenue, instead focusing on non-oil deficit.

d) The figure demonstrate as cited several time that oil revenues constitute the bulk of government budget, in the same time the oil windfalls are spent on current and capital expenditure, which gives the Public Investment a key role for diversifying economy, especially because Algeria focuses on capital accumulation instead on financial accumulation i.e. Norway by investing abroad. The Algerian executive increased significantly the public investment in package officially named "Programme quinquenal des investissements Publics" - five years program of public investment- (2001-2004: USD billion 6.9; 2005-2009 USD billion 150; 2010-2014: USD billion 286) mainly dedicated to improve infrastructure gap, by order of importance the investments inflow to: social housing, public infrastructure, water equipment, youth and sport, rural development, high education, national education and finally health care,¹ according to the same source, 4.5 percent of total investments inflow to agriculture, 9.4 percent for industry and 1.3 to enhance the creation of microenterprises.

Despite the ambitious feature of the investments, this can point the redistribution role of the state instead its efforts to make the economy more productive. In other words, the state continues to redistribute wealth and not create it.² In addition, clear rules do not exist and the executive seems respond to the stronger pressure than to a clear subsidies management.

The impact of public investment on the economy depends on its efficiency, i.e. its capacity to produce a unit of output using the lowest combination of inputs; with regards to "Keynesian

¹ Information and data is from the National Agency of Investments development see the presentation in <<http://www.andi.dz/fr/>>

² LAHOUARI, A., *The Political Obstacles to the Economic Reforms in Algeria*, UCLA: International Institute, Feb. 11th 2009 available on www: <<http://www.international.ucla.edu/article.asp?parentid=104643>>

perspective” any increase in aggregate demand -whether from consumption, export or investment- can elicit an increase in actual GDP, which will continue so long as investment keeps expanding. However, whereas all the investment positively affects potential GDP, its impact as a source of real growth depends on its efficiency. In Addition, quality also requires Cost-Benefit Analysis (CBA)¹, that allow to optimize the use of resources could be misallocated and wasted rather than channelled to sustain growth.

Some weakness have been noted by the international institutions concerning the Public Finances in Algeria, in term of credibility of the budget, comprehensiveness and transparency, policy-based budgeting, predictability and control in budget execution, accounting, reporting and finally external scrutiny and Audit (see the report of the World Bank No. 55061-MNA)²

According to the points developed above, some recommendations are needed to conclude about what can be done to perform the Algerian economy by decreasing its reliance to the hydrocarbon windfalls in term of government revenues, its share on total GDP and export.

4.3 Road Map for Algerian economic diversification and recommendations

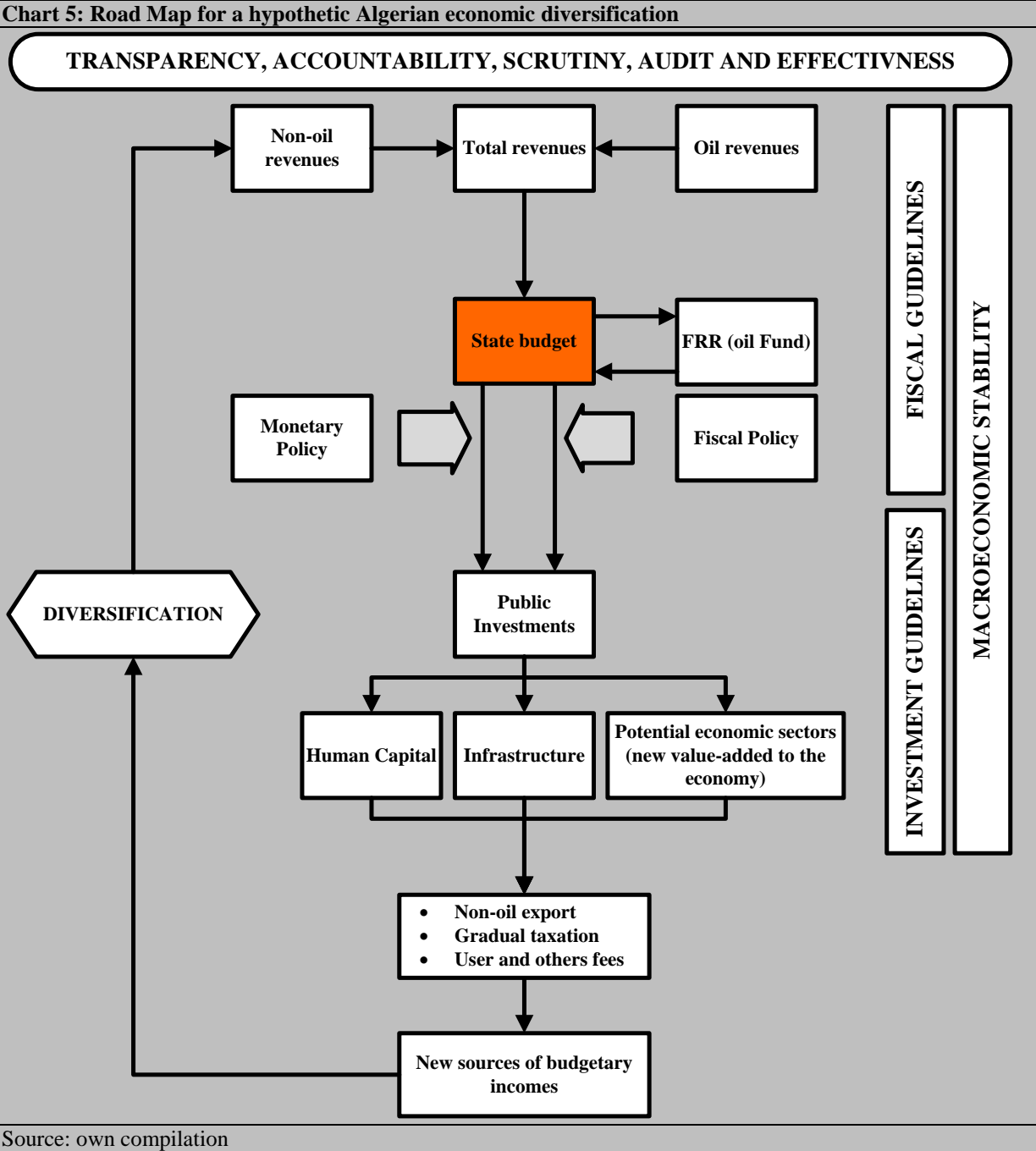
According to the high level of oil revenue especially during the last decade and the huge bill of public investments, Algeria is in the crossroads between harnessed the opportunity to sustain long term economic and employment growth and continues social development or will be squandered through inefficiency, waste and corruption. With regards to the important points developed across the thesis, we established a “Road Map” that we consider useful to underpin the Algerian economy and its independence from resource incomes to a sustainable one. The chart in the following page summarized as well.

1. Algeria has an urgent need to build a clear diversification strategy as a long-run consideration to reduce its dependence to hydrocarbon revenues with regards to the risks of depletion (physic or technologic). The clauses of this strategy should be understood, accepted, adopted and should enjoy a high degree of consensus, for that reason, Algerian state should

¹ cost-benefit analysis (CBA) justifies and explain the social benefits and costs of certain economic projects in terms of a common unit The main goals of CBA are: (i) to establish whether an investment project is worthwhile or not; (ii) to methodically document project’s costs and benefits.

² SHAND, D., TOMMASI, D., *Public Management Reform in the middle east and North Africa*, Washington DC: world Bank, Report No. 55061-MNA.

improve the degree of transparency as the main condition to attempt credibility of the Public by:



- Reinforcement of institutions, particularly the Parliament by widening its responsibilities in term of control financial transaction in public administration (line ministries, Presidency, local Administration, public firms and agencies), this can be possible by the appointment of Auditing court president, who must be answerable

- The parliament by an annual report about financial transactions as stipulated in law. In other side, the deputies should be able to debate rationally the economic questions far from political consideration; they should also consider the importance of the public service, as for ministers and bureaucracy,
- Introduction of explicit and implicit transparency rules by opening them budget to the public, in this case the information systems must be improved by publishing, policies of each sector in its own and them evaluations, this information systems should be an integrated point of a larger public communication which includes free mass media and public debate in order to create a dynamicity around the main strategy.
- Hardening of counter-corruption legislation and its strict application in the form of dissuasive punishment, which apply the “Rule of Law” by making Justice more independent.

Several studies have been done about how transparency, Rule of Law, accountability can be implemented because of them universalism feature, they must be improved and observed by all countries including Algeria. This will certainly enhance the “Trust in the Government” and underpin its action

2. Concerning the fiscal policy as a major tool according to the results of the second chapter Algeria should restrain the government to spend more oil windfalls by introducing fiscal rules, this consequently make the government focused on non-oil growth, the cited rules should be built with regards to the points developed in the second chapter. In this way, the monetary policy should be integrated to maintain a macroeconomic stability by given more liberty of action to the Bank of Algeria. It is noticeable that the Central Bank of Algeria has successfully absorbed liquidity caused by the huge public investments and maintains an acceptable inflation rate.

3. Concerning the FRR (Algerian oil Fund) Algeria should continue to hedge oil revenues which enable its economy to be protected from the fluctuation caused by an unstable oil market. However and especially after the reimbursement by anticipation of the external and internal debt, the executive must be guided also by rules to don't outflow fund to underpin the weak of its policies and a non-efficient investments. In this case, the fund must be institutionalized and under the control of Parliament as ultimate owner (inflows and outflows must be agreed by this institution).

4. Algerian government must develop a modern unemployment system as an automatic stabilizer which smoothes the trend of the economy; employment can be enhanced through targeted labour market reform such as more flexible labour market regulations to enable enterprises to respond to markets signals, the role of the public sector will need to be reshaped from the purveyor jobs, to provider of sound physical and institutional infrastructures

5. If the fiscal policy is the main tool which enable the executive to concrete the objectives of diversification strategy, the public investments are the transmission mechanism which enable the government to recycle its oil windfalls on sustainable wealth; as related before Algeria focuses more on capital accumulation (human capital as for housing, health care, education, or on infrastructure high ways, bridges, ports, airports, water equipment) instead developing sectors representing a new-value-added to economy. Despite the importance of infrastructure as a “growth gap” Algerian executive should allocates more credit to sustain private projects, indeed after deep evaluation of the return of those projects (using quantitative and qualitative methods and the cost-benefit analysis) the executive should be sure that in case of failing the outflows return to the fund, this can impacts positively by absorbing unemployment, and in the medium-term (because of taxes facilities) the new source of budget revenues can inflow in form of taxation.

Harwick (1977) showed that investing all resource rents in others assets will yield sustainable development with non-exhaustible resources, this is the famous “**Rule of Harwick**” which was defined by Solow (1986) as a rule of thumb for sustainable development.¹ In its public investment management part, the implementation of Harwick Rule must insure that resource rents are invested efficiently including physical investment.

Applying the Harwick rule requires sound fiscal policy and public investment management, the good practice of public investments are:

- Consistency with development strategy (Diversification);
- Formal projects appraisal (evaluation) and independent review;
- Integrated with budget cycle;
- Effective project implementation and adjustment;

¹ HAMILTON, K..., *la viabilité de la politique budgétaire dans les pays tributaires des exportation de minéraux*, conférence du Fond Monétaire International à Alger sur les ressources naturelles, finances et développement: défis d’Hier et d’aujourd’hui, Alger: IMF, Nov.2010 valable sur le lien [www: <http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Hamilton1f.pdf>](http://www.imf.org/external/french/np/seminars/2010/afrfin/pdf/Hamilton1f.pdf)

- Integrated into government asset accounts
- Post-implementation assessment (estimation)

In Algeria some indications must be related considering the efficiency of public investments, there are summarized in the following points:

a) The restructuring of the national public investment system: An overhauled public investment system should move away from a “project by project” approach to a multiyear sectoral programming approach whereby projects are selected on the basis of sound sector strategies. In addition, investment projects must meet minimum standards and sound costing. Otherwise they should be not approved.

b) The new role of the CNED (Caisse Nationale d’Equipement pour le Développement): In support of the national public investment system, CNED should play a critical role in making sure that, sectoral priorities and minimum technical standards are respected for major projects.

c) The modernization of budgetary management: Algeria does poorly in international rankings of budgetary management. A vigorous process of reform is ongoing, as important failures are yet to be addressed, some of them indirectly related to support public investment implementation such as new budgetary reclassification, a new organic budget law, a medium-term expenditure framework, a performance-based budgeting and an IT-based budget system.

Efficient public investment will impacts positively on human capital, an adequate infrastructure and the rising of potential sectors which represent a new-value added to the economy (agriculture, industry, tourism and other services) those potential sectors have to underpins the internal supply –decreasing the government import bill on food and commodities- first and in medium-term, regional and international supply, consequently this influence positively:

- Non-oil export: in this case, Algeria should consider several experiences such as in Indonesia or Malaysia (agricultural reforms, investment on human capital)
- Gradual increase of taxation: Algeria introduced a new tax reforms in 2003, we have already explain the impact of taxation as a sustainable fiscal revenues and as a tool for increasing of accountability and good governance, in this way Algeria should improve it and observe the principles of good taxation such as (efficiency, understandable, equitability, benefit principle). The taxes should be agreed by Algerians as an alternative to oil revenues. From this point of view it is important to remain the

necessity to build a strong tax administration as provided in Botswana, which enable the state to limit the high level of tax avoidance.

- User and other fees: Algerian should stop to act as a “providential state” instead “regulation state” and should introduce fees (user, administrative) to underpin the infrastructures and to finance public services, with regards to the principle of solidarity.

New non-oil export, gradual taxation, and fees may represent a new source of incomes to the government budget increasing real non-oil GDP and make less strong the reliance of the economy to hydrocarbon resources. In other words concrete a Diversified economy, the cycle can be repeated several times until attempting a respectable share of hydrocarbon on the national economy, then priorities should change to a financial accumulation (by investing abroad).

This cycle need a good will of the executive surrounded by a large public consensus to the government action. The road to diversification may be long and difficult but we still trust that changes and reforms can be provided by the authorities.

Conclusion

The current thesis *Diversification of the Public Budgets Incomes in Algeria* has as aim to highlight the reasons which make the public finances in the former country dependant from volatile, non-renewable, and uncertain hydrocarbon revenues because they accrue from abroad.

The analysis provided shows that each diversification process must be surrounded by an adequate environment mainly concentrated on a good macroeconomic stability, constitution of human capital, high level of good governance, and the adoption of an efficient public spending. The latter condition underlines the importance of the fiscal policy as the main tool to deal with hydrocarbon windfalls, and the necessity to restrain governments on oil-exporter countries to spend efficiently oil and gas revenues. The efficiency of public spending apply the efficiency of public investments in projects which will underpin the creation of wealth instead it distribution.

The analysis of the Norwegian experience in this domain demonstrates first, the importance of the needed diversification environment, and second, how the Norwegian executive deals with oil revenues by isolating them from the public budgets (investing them abroad) and tightening the investment returns by strict rules.

In Contrast, the case study of Algeria established the real need to invest the oil revenues on infrastructure and social projects. However some empirical studies established the inefficiency of public investments in Algeria, mainly due to the lack of control institutions and the choice of projects which don't have a value added returns to the economy.

In this way Algeria needs a several political and economical reforms; the political reforms consist on the reinforcement of the parliament as a control organ and the openness of public budgets for more transparency and accountability. Economical reforms include the establishment of a national strategy encouraging the diversification process, in order to decrease the reliance of it budget from natural resources export by the modernisation of the public finances, taxation system, and the public investments. The former should more focused on the private sector and sectors which can represent a new value added to the economy, those projects must be submitted to a strict evaluation and should include it positive impact by creating a new revenues to the government budget to insure first, a future fiscal sustainability, then in the long run oil revenues can be financially accumulated.

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List of Abbreviations

ANEM	Agence Nationale de l'emploi (National Agency of Employment-Algeria)
ECB	European Central Bank
FRR	Fond de Régulation des Recettes (Algeria)
G7	Group of the seven most industrialized countries
GCC	Gulf Council Countries
GPF-G	Government Petroleum Fund- General (Norway)
HDI	Human Development Index
IMF	International Monetary Fund
IMFC	International Monetary Fund and Financial Committee
NHGDP	Non-Hydrocarbon Gross Domestic Product
OEC's	Oil-exporter countries
OECD	Organization of Economic Cooperation and Development
ONS	Office National des Statistiques
SAI	Supreme Audit Institution
SONATRACH	Société Nationale de Transport et de commercialisation des Hydrocarbures (National oil Company Algeria)
SWF	Sovereign Wealth Fund
UNDP	United Nations Development Program

Annexes

1. The impact of a shock to public investment in Algeria¹

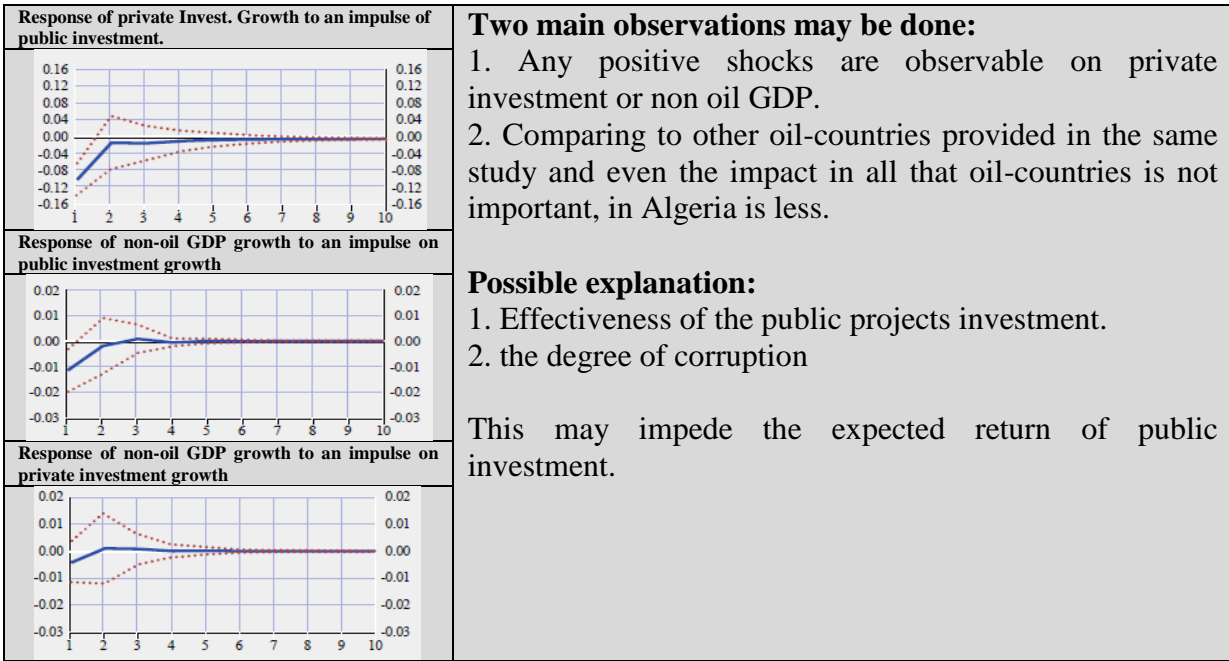
The current empirical study was provided by European Central Bank, the study investigated the relationship between public investment and productivity and growth using vector autoregressive (VAR) models. A great number of studies have applied VAR modelling to estimate the impact of public investment in developed economies. However, research for developing countries is more limited, possibly due to the lack of sufficiently long time series. Based on data from the IMF World Economic Outlook database for the period 1980-2008, a three-variable VAR model is constructed and estimated for Algeria. The variables in the VAR are the logarithmic growth rates of real public investment, real private investment and real non-oil GDP.

The p-th vector autoregressive model in standard form can be written as:

$$X_t = c + \sum_{k=0}^n A_k \times X_{t-k} + \varepsilon_t$$

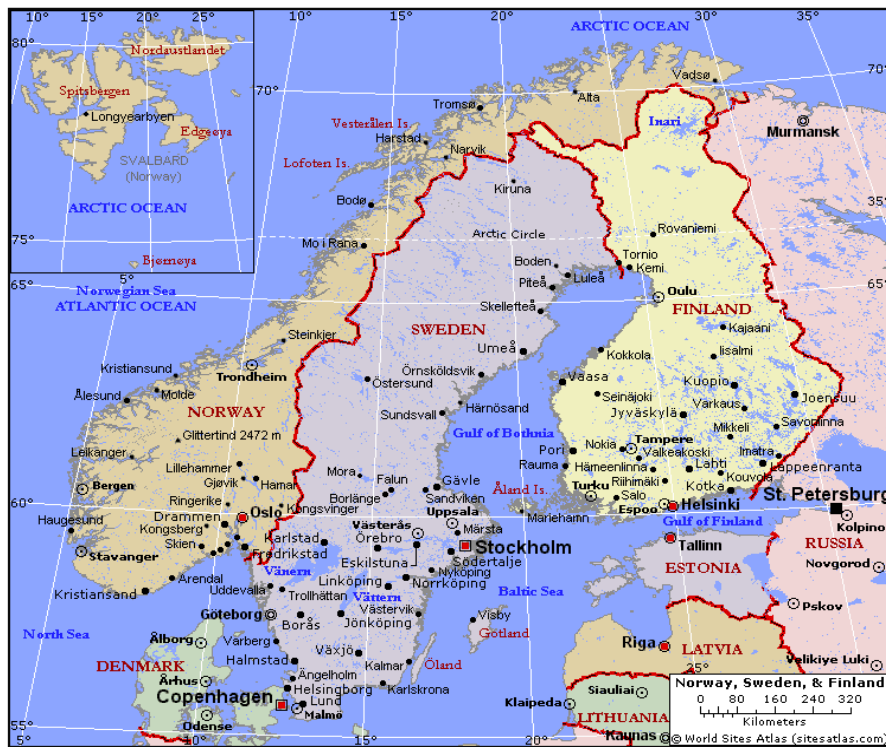
where $X_t = [\Delta \log publ_t, \Delta \log privl_t, \Delta \log noGDP_t]$ is the (3x1) set of variables, A_i is a matrix (3x3) of autoregressive coefficients, c is a vector (3x1) of intercepts and the vector ε_t (3x1) represents the residuals following a white noise process. The lag length of the model is selected according to the usual information criteria. The equations in the VAR model can be estimated separately by using OLS. The OLS estimates are, under general conditions, consistent and asymptotically normally distributed. If all variables are stationary, the estimated impulse responses will also be consistent. The variables used in this study may easily be assumed to be stationary since they are constructed from logarithmic growth rates of series in levels.

The graphs below show the responses of private investment and non-oil GDP to a one unit shock to public investment in period one, and the response of non-oil GDP to an equivalent impulse to private investment.



¹ STURM M., GURTNER F., and ALEGRE J.G., *fiscal policy challenges in oil exporting countries*, European Central Bank, occasional working paper No. 104, 2009. Pp. 21-22.

2. Map of Norway



3. Map of Algeria

