



MEFMI FORUM

Issue 14 - July 2013



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The Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI) publishes the MEFMI FORUM in English.

EDITOR-IN-CHIEF

Ellias E. Ngalande (PhD)

EDITORIAL COMMITTEE MEMBERS

Alphious Ncube – Chairperson

Amos Cheptoo

Cornilious Deredza

Michelle Mutinda

Simon Namagoa

Gladys Siwela – Editor

EDITORIAL ADVISOR

Raphael Otieno

Please direct contributions, comments and enquiries to;

The Publications & Networking Officer

MEFMI FORUM Editorial Committee

P O Box A1419

Avondale

Harare

Zimbabwe

Tel: +263-4-745988/9/91-94

Fax: +263-4-745547/8

Email: capacity@mefmi.org
gladys.siwela@mefmi.org

Website: www.mefmi.org

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ISSN 2073 - 0055

Guidelines for the MEFMI Forum

1. PREAMBLE

The MEFMI Forum is a bi-annual newsletter of the Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI). The Institute is a regionally owned capacity building organization that is headquartered in Harare - Zimbabwe. Its current country membership includes: Angola, Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. MEFMI's mandate entails fostering best practices through strengthening of sustainable human and institutional capacities in key identified priority areas of debt management, financial sector management and broader macroeconomic management. Sharing and dissemination of pertinent information and experiences is one of the modes of delivery employed by the Institute. The Forum, among other traditional and new information technology-driven mechanisms, plays a pivotal part in this regard.

2. OBJECTIVES

The overall aim of the Forum is to provide a widely accessible and informative media for the regular regional and international exchange of pertinent ideas, issues, speeches, experiences, new developments and sound or best practice.

Within this context, these guidelines are designed to:

- Inform stakeholders of the legal and institutional framework within which the Forum is published and disseminated;
- Provide editorial policy guidelines that set the required quality standards for the Forum; and,
- Lay down procedures for the sourcing and submission of contributions for publication in the Forum.

3. EDITORIAL GUIDELINES

- The Forum shall be published twice a year for the benefit of all MEFMI stakeholders;
- Contributions should be made in the English language;

- Contributions shall ordinarily be published on a continuous first-come-first-served basis, thus allowing for the deferring of some successful articles received late to subsequent issues of the Forum;
- Contributions shall be published on a voluntary or pro-bono basis, with modest honoraria being paid to only defray personal expenses incurred;
- The terms of reference of MEFMI resource persons shall provide for customization of their presentations into short background papers for the MEFMI Forum articles;
- Special contributions may be occasionally commissioned on an exceptional case-by-case basis;
- Contributions submitted for publication should be related to capacity building in macroeconomic and financial management;
- The contributions should be incisive, informative and as far as possible original, with proper acknowledgement of the work of others used, so as to avoid plagiarism;
- Contributions will only be published with the authors' consent and their acceptance of liability for content and implications of their contributions;
- Personal details, such as authors' names, titles, designations, name of employers and recent photographs may be inserted into respective contributions for ease of identification and reference;
- The MEFMI website versions of the Forum issues shall have been appropriately adapted for ease of access by all stakeholders under varying information technology capabilities;
- The Editor-In-Chief shall reserve the right to decline to publish articles that are inconsistent with the above guidelines and / or to annul part or all of any honoraria that may be due to the affected contributions

4. LEGAL AND INSTITUTIONAL FRAMEWORKS

The authors of articles published in the Forum are deemed to accept personal liability for the content and implications of materials they submit for publication;

MEFMI shall not under any circumstance be held liable for contributions published through the Forum, and a disclaimer to this

effect shall be inserted into every issue of the Forum;

The MEFMI Forum shall be published and disseminated through the office of the Editor-In-Chief, which is supported at various stages by the Editorial and Tender Committees and a Networking and Publications function from within the MEFMI Secretariat;

Prior written permission and /or acknowledged reference to the relevant issue of the Forum should be cited for any use of materials published in the Forum.

5. TARGET AUDIENCE AND CONTRIBUTORS

The Forum shall be open for contributions and readership from a wide, diverse and expert stakeholder base from within the relevant MEFMI client institutions, member States, partners and other regional and international peers and networks;

The Forum shall be distributed to stakeholders and other relevant parties in hard copy and / or in electronic form, including through posting on the MEFMI website

6. ELIGIBILITY CRITERIA

In addition in section 3 above, contributions should meet the following specific criteria for eligibility for publication:

Contributions should be relevant to macroeconomic and financial management;

- The contributions should be topical, analytical and applied than being of a purely research or theoretical slant;
- Contributions should be concise and brief, within a maximum limit of 5000 words, excluding diagrams and other necessary illustrations;
- Contributions need to properly acknowledge others' work, including appending of relevant bibliographies, references, etc;
- Where appropriate, prior clearance or authentication by employers or relevant authorities should be sought in cases where country-sensitive or country-specific information is involved;

Contributions should adhere to the following lay-out:

- o Title
- o Author and Designation
- o Overview / Executive Summary / Preamble
- o Introduction
- o The issues
- o Purpose / objective/s
- o Methodology
- o Scope
- o Body
- o Facts
- o Analysis
- o Interpretation

- o Conclusion / Recommendations
- o Bibliography Havard Style -
AUTHOR(S), Year of publication. Title of article. Title of journal, volume number (part number), pages

There should be adherence to the following submission procedures:

- Meeting submission deadlines,
- Submission of contributions in MS-Word.

Foreword by the Executive Director

Over the years, MEFMI Forum has become a well-respected technical publication that provides in-sight to economists and financial experts on the trends surrounding the area of macroeconomics. In this issue, we bring you three distinct articles on subject matters that we know are of great interest and relevance to the economic development of the MEFMI region in particular and Africa in general.

The lead article in this issue based on a presentation made by Mr Jan Isaksen at the **MEFMI Discussion Forum on Natural Resources Management: The Case of Norway** which was held in Harare, Zimbabwe 21 May 2013. When the oil was discovered in Norway, the Parliament produced a white paper on the handling of its new found treasure. This also saw the adoption of the so called “10 oil commandments” or principles that governed the Norwegian Parliament to ensure oil resources benefited the whole nation.

The Norwegian case is one of the few success stories in the world that has seen a natural resource being converted into a profitable product that has benefited and continues to benefit the whole country. The transfer of skills and technology and the cooperation in research and development has been among the most successful aspects of Norway’s petroleum policy. Cooperation agreements made the oil companies contribute funding, insight and expertise to develop technology in Norway. The ‘Norwegianising’ process ensured that the resources were owned by the nation and they worked together to secure them for future generations.

Through the Statoil, the government of Norway owned 50% of each production license. Negotiations were structured such that the bulk of the revenue was retained with close to no tax breaks or tax havens. Taxation on the other hand was at 25%, thus the government received up to 75% of oil revenues which were internalised and actively applied to areas of development within the country. The Ministry of Finance created a Sovereign Wealth Fund which is regarded as a Pension Fund. The fund now has a value of more than US\$600 billion and owns 1% of all global equities and on average 2.25 % of every listed European company. Initially, the Fund was thought of as a 30 year reserve but now, after 25 years, it is expected to last for another 100 years.

We strongly believe that the Norwegian model can be replicated by countries in the MEFMI region, most of which are richly endowed with natural resources.

The second article in this issue focusses on the involvement of the private sector in the delivery of public goods, as a long standing and established practice in Organisation for Economic Cooperation and Development (OECD) countries. We carry an article on public-private partnerships (PPPs) which expounds on how OECD governments have increasingly turned to public-private partnerships (PPPs) in order to expand and improve infrastructure quality as well as enhancing competitiveness and economic growth in the area of public infrastructure services. The article explains amongst other critical issues, how PPPs are attractive to the private sector, the benefits of private sector participation (pursuit of innovative solutions and better allocation of inputs) as well as how PPPs can be a superior solution to traditional public procurement as they are likely to provide greater value for money. The risks associated with delivering infrastructure services through PPPs are also provided in this article.

Through this article, MEFMI is propagating for the need for policymakers to analyse the merits of delivering infrastructure services through PPPs, taking into account the specificity of the asset under consideration. Before deciding to deliver infrastructure by using a PPP, a careful evaluation of its fiscal implications should be pursued together with a proper assessment of its merits vis-à-vis traditional procurement. Additionally, government bodies and agencies should ensure that they select the most efficient bidder and that the contract structure effectively and properly allocates risks to the parties better equipped to deal with them.

This article will assist the reader to understand the conditions under which monetary policy affects economic growth, by focusing separately on central bank policy actions and the transmission mechanisms through which those actions work their effects. The article will be concluded in Issue 15 of MEFMI Forum.

The third article in this issue is on **Instruments and Conditions for Efficient Monetary Policy Making in Support of Economic Growth: Case of African Economies**. This paper was presented by the MEFMI Executive Director at the recently held AACBG meeting.

The article focuses on the broad spectrum of how monetary policy can contribute to sustainable growth by maintaining price stability. The argument is that there have been numerous research studies on the contribution of economic policies to economic growth. Amongst the major policies, monetary policy is the most researched topic in the modern economic era because it has - through inflation - very serious implications for growth and income distribution.

The article outlines the fundamental objective of central banks in its effort to attain a set of objectives oriented towards the growth and stability of an economy. The central banks in Africa, like other central banks in developing countries, achieve the monetary policy goal through the amount of money supplied in the economy. By using monetary policy tools, the central banks ensure that money supply is controlled in a manner such that the aim of sustainable economy (sustainable economy = maximum employment + stable prices + growth) is achieved.

The article does not attempt to address recent developments in monetary policy implementation such as quantitative easing or credit easing; that have since been adopted by some major central banks to achieve financial stability. Rather, it analyses the dynamic interaction of conventional monetary policy tools, transmission mechanisms and conditions in stimulating economic growth.

Global changes require pragmatic and proactive actions that will bolster the Africa region in general and the MEFMI region in particular. We believe that should the proposals contained in the articles that are in this issue, positive change will manifest that will propagate the attainment of transmission mechanisms through which those actions work their effects.



Ellias E. Ngalande (PhD)

Proceedings Report on the MEFMI Discussion Forum on Natural Resources Management: The Case of Norway - Presentation made by Mr Jan Isaksen; Counsellor Norwegian Embassy, Lusaka, Zambia

Report prepared by Michelle Mutinda – MEFMI Programme Officer – Financial Sector Management Programme and
Simon Namagoa – MEFMI Programme Officer – Multi Disciplinary Activities

1. Introduction

The MEFMI Discussion Forum took place on Thursday 23rd May 2013 in Harare, Zimbabwe. The maiden forum was held with financial support from the Royal Norwegian Embassy in Harare. The event was officially opened by Dr. Desire Sibanda, the Permanent Secretary for the Zimbabwe Ministry of Economic Planning and Investment Promotion.

The objectives of the forum were as follows:

- To provide a platform for sharing practical approaches that can assist Zimbabwe and other countries in the region to prudently, competently and efficiently manage the natural resources that are abundant in these countries;
- To afford an opportunity to share experiences, exchange views and test new ideas, among peers under expert guidance;
- To offer lessons on the challenges faced and successes achieved in natural resource exploitation and utilisation in other countries; and,
- To encourage networking among senior executives and key national institutions.

The discussion forum attracted 41 officials. These included - from the MEFMI client institutions - some senior government officials and Economists in the Ministries of Finance, Economic Planning, the Reserve Bank of Zimbabwe and related institutions. The event was also graced by officials from the Ministry of Environment and Natural Resources, the Ministry of Mines, the tobacco industry as well as representatives of relevant state corporations. The occasion was also graced by the diplomatic community resident in Harare.

2. Highlights of the Key Note Address

Dr. Desire Sibanda acknowledged the key role MEFMI [plays in capacity building in the region.. He expressed gratitude to MEFMI for bringing together relevant government ministries and captains of industry who are directly involved in managing industries and influencing policy positions on issues that are related to ensuring maximum and efficient utilisation of natural resources to safeguard the growth and development of this nation.

He premised the fact that through-out the African continent, ordinary men and women as well as corporates are extracting natural resources to enhance their lives. Although in some circles natural resources management is considered within the framework of power, process and practice and how these shape access, control and use of natural resources; governance systems should be crafted in the context of empowering and enriching the nations that are endowed with the natural resources.

He observed that over the years, state visions of appropriate management and use of natural resources had largely been extended through a centrally directed structure and process. However, state control over the use and management of income from natural resources is largely ineffective because the state lacks the resources and capacity to enforce appropriate controls.

He pointed out that in many of the resource rich countries such as Zimbabwe, pioneering efforts at entrustments over use and management of resources are required in order to correct the imbalance where there is just a trickle-down effect of the income generated. This is in part because the policy thrust is not clearly defined to benefit the nation but is designed in terms

and processes that benefit external agents and their functionaries. Zimbabwe has in the past managed to build successful manufacturing and commercial agricultural sectors based on income generated from its natural resources.

Dr Sibanda was mindful that neglected and not strategically managed natural resources can create increasing stress on the environment and cause a decline in human welfare. This is reflected in some African countries which continuously suffer chronic food insecurity and the bulk of their population continues to live in abject poverty despite the nations being natural resources rich. However he was pleased to note, that there are countries that are in the MEFMI region that have effectively utilised the income generated from natural resources. He said that an example is Botswana, which rose from a low to a middle-income country status on economic growth driven by the diamond trade. The country instituted a “diamond beneficiation program” to diversify its economy and foster entrepreneurship in additional sectors.

It was his belief that through the exchange of information from the forum, Zimbabwe and other countries would set a good example in capacity building in various institutions by creating new strategies in natural resources management. He added that the rapid expansion of sovereign wealth fund launches across the continent, is a response by resource-rich nations seeking to manage their resources, providing powerful evidence that African states are embracing fiscal prudence.

Dr Sibanda also informed the officials that the Norwegian outlined how and why the goals were formulated and the prevailing circumstances. He felt that the Norwegian experience was very useful because the technical, institutional and organisational arrangements seen as the main pillars of the Norwegian management of natural resource wealth could be replicated or adapted to other countries. This notwithstanding the fact that the socioeconomic and political characteristics that shaped decisions in Norway at the time could not be duplicated.

In his welcome remarks, the MEFMI Executive Director, Dr Ellias Ngalande thanked the Royal Embassy of Norway for their financial support that ensured the forum could be held.

He also thanked all the distinguished guests, who included ambassadors resident in Harare, for responding to the invitation.

In her closing remarks Her Excellency, Ingebjørg Støfring Ambassador of the Royal Norwegian Embassy thanked Mr. Jan Isaksen for the insightful presentation. She thanked the officials for their informative interventions, that had generated considerable discussions. She explained that the story of Norway could be useful to some of the countries in the Africa region. It was therefore interesting to note on the part of Norway that there are parallels that can be drawn judging from the interventions shared in the forum.

3. Synopsis of the Forum Presentation and Discussions

In 1958 the geological services of Norway pronounced that there was the possibility of finding oil on the Norwegian

Continental Shelf (NCS). After a year however great quantities of gas were found in Groningen in the Netherlands and the interest among some oil companies increased, leading to a major oil strike at Ekofisk in 1970. Since then some 5953,2 million Standard cubic meters of petroleum have been produced on the NCS, before mostly oil, now about half gas.

The story of oil and gas since the mid-sixties in Norway has had an innumerable amount of aspects which revolved around the avoidance of the natural resource curse and the Dutch disease. There are three important pillars to the story;

- (a) Where the nation was before they struck oil;
- (b) What the strategies and policies were; and
- (c) Which institutional architecture helped implement policies and strategies.

The presentation made by Mr Jan Isaksen focused on the future perspectives particularly drawing some conclusions as to whether the Norwegian story could be of any help for the countries in Africa which are now on the cusp of exploiting major natural resource riches.

4. Presentation Highlights and Lessons Learnt

When the oil was discovered, but before extraction, the Norwegian Parliament produced a white paper on the handling of its new found natural resource. This was led by the adoption of the so called “10 oil commandments” or principles. These were guiding principles and rules put in place by the Norwegian Parliament which were meant to ensure oil resources benefited the whole nation; and they are still in place since adoption in 1971.

The state started the process of exploiting the oil in the North Sea by establishing a strong bureaucratic organization for regulation of the emerging industry. Handling of investment and upstream activities was critical and foreign companies were consciously used as conduits for exploration and production technology.

To enforce the procurement policy, 1972 also saw the establishment, in the Ministry of Industry a “Goods and Services Office” as a watchdog to control the oil companies’ contracting and procurement activities in order to ensure transparency in the these operations.

The oil companies recruited young Norwegian engineers and trained them overseas for a significant period, before they were taken home to “Norwegianise” their organizations. The transfer of skills and technology and the cooperation in research and development has been among the most successful aspects of Norway’s petroleum policy. Cooperation agreements made the oil companies contribute funding, insight and expertise to develop technology in Norway. The ‘Norwegianising’ process ensured that the resources were owned by the nation and they worked together to secure them for future generations.

Through the Statoil, the government owned 50% of each production license; negotiations were structured such that the bulk of the revenue was retained with close to no tax breaks/havens. Taxation on the other hand was at 25%. Therefore, the government received up to 75% of oil revenues which were internalised and actively applied to areas of development within the country.

Under a mandate from the Ministry of Finance the Norges Bank Investment Management (NBIM) was given the task of managing the Sovereign

Wealth Fund which is regarded as a Pension Fund. Detailed investment guidelines have been put in place to assist in the management of the fund. The fund now has a value of more than US\$600 billion and owns 1% of all global equities and on average 2.25 % of every listed European company. Initially, the Fund was thought of as a 30 year reserve but now, after 25 years, it is expected to last for another 100 years.

A full extract of the presentation is placed on Annex I of this article.

5. Interventions/Discussions Session

Drawing an analogy on the presentation, a delegate from ACBF, Mr. Franklin Mutahakana outlined a situation of Uganda which discovered oil. Considering the fact that the country is characterized by high levels of poverty, Mr. Jan Isaksen was requested to advise how Uganda and other poor countries could proceed in order to realize benefits from the oil and other natural resources.

Mr. Jan Isaksen explained that unlike Norway which was a relatively rich country when it discovered oil, it might be useful for “poor” countries to ensure objectivity and manage expectations of the people given the existence of such natural resources. He explained that there is need to democratically provide comprehensive information to the masses on the said natural resource and to have solid institutions well equipped in terms of expertise to be able to handle the proceeds.

The Ambassador from the Embassy of European Union (EU) recounted the history of a small country, Timor Leste which discovered oil. Timor drew experts from Norway to assist in the development of the petroleum and gas infrastructure among other critical areas. However, the Ambassador wanted Mr. Jan Isaksen to confirm the importance of a “DNA” for Timor Leste as was applicable for Norway.

For this “DNA”, Mr. Jan Isaksen and Ambassador of Norway, Her Excellency Ingebjorg Stofring explained that there is a common understanding in the minds of every Norwegian citizen that the oil is owned by every citizen and the oil revenues are for the benefit of current and future generations.

In this regard, for a country such as Timor Leste or any other, they need to have principled views regarding the natural resources that are shared by every citizen. The other important point brought out was the fact that to enforce the “DNA” it is important to elect into power people who ascribe to the belief.

An intervention from a delegate from Zimbabwe’s private sector requested for examples of countries within the region endowed with natural resources that may have done well in managing them. On this, Mr. Isaksen gave an example of Botswana which discovered diamonds during the time they were a very poor country and utilizing expertise from around the world, crafted policies that were long-term and have successfully reduced poverty from approximately 70% to approximately 24%. In later years, Botswana created a Sovereign Wealth Fund known as the Pula Fund. In addition, the Pula fund has approximately two years of import cover. Nigeria also launched its fund with seed capital of US\$1 billion while Angola launched the Fundo Soberano de Angola, or FSDEA with seed capital of US\$5 billion.

The Permanent Secretary for the Zimbabwe Ministry of Economic Planning and Investment Promotion, Dr. Desire Sibanda presented the scenario of multinational companies that are known to avoid and or evade tax and set up transfer pricing schemes thereby disadvantaging the developing countries in terms of revenue. He indicated that Norway seems to have managed to embed a high tax regime on the oil without scaring off investors.

Mr. Isaksen explained that transfer pricing is meant to manipulate markets or deceive tax authorities. Some of the solutions to such a scenario are ‘country by country reporting’ where corporations disclose activities in each country and thereby prohibit the use of tax havens. He provided an example of Zambia which had leaks in the system, whereby the expected funds from the exported copper were not equivalent to the tax revenues received by the government. He explained that Norway and Zambia are different countries but with similarities between relations with multinational mining companies, thus it was natural for the two countries to share experiences and for Norway to support Zambia in improving its tax administration with emphasis in collecting correct taxes from the large taxpayers.

Staff in the large taxpayer’s office – mining unit are trained on transfer prices, multinational taxation, value assessment, etc.

A delegate from ACBF, Dr. Kobena T. Hanson, brought the issue of negotiating contracts for firms to assist in the extraction of natural resources. He pointed to the fact that African countries are stuck with poorly negotiated contracts that have resulted in under collection of revenue.

On this, Mr. Isaksen indicated that there is need for African countries to aggressively know how to apply negotiating power during contracts. It is important to understand the tools of negotiation and he used the case of Botswana which negotiated with De Beers until an agreement was reached whereby De Beers was given the world’s richest mine for a further 25 years and they moved their diamond cutting and sorting facility from London to Gaborone. They were also to bring diamonds mined elsewhere for aggregating at the Gaborone facility and market stones as a joint venture.

Dr. Phenias Kadenge, from the University of Zimbabwe, raised the issue of the role of transparency in extraction of natural resources. He indicated that ideally countries need to engage some Non Governmental Organisations (NGOs) who become active in informing the public with regards to the developments in the natural resources being extracted.

On this matter, Mr. Isaksen, explained that transparency is very important in resolving the cases of system revenue leaks and it should be applied across the chain; From amounts extracted all the way to the sales made, the selling price and the commodity market the process must be transparent. Norway subscribed to this through the transparency of EU and USA NGOs that regularly provide information on the mining industry.

Annex 1

Word Version of the Presentation Made by Jan Isaksen at the MEFMI Discussion Forum

In 1958 the geological services of Norway pronounced that we could ignore the possibility of finding oil on the Norwegian continental shelf (NCS). After a year however great quantities of gas were found in Groningen in Netherlands and the interest among some oil companies increased, leading, in 1970, to a major oil strike at Ekofisk. Since then some 5953,2 million Standard cubic meters of petroleum have been produced on the NCS, before mostly oil, now about half gas.

The story of oil and gas since the mid-sixties in Norway has an innumerable amount of aspects. The brief description of the history revolves around how Norway avoided the natural resource curse and the Dutch disease. There are three important pillars to the story;

- (a) Where was Norway as a nation before the oil “struck”;
- (b) What strategies and policies were implemented; and
- (c) What institutional architecture helped implement policies and strategies.

The presentation looks at future perspectives and tries to draw some conclusions in particular as to whether the Norwegian story could be of any help for the countries in Africa who are now on the cusp of exploitation of major natural resource riches.

Meaning of the curse and disease. What are they?

The natural resource curse refers broadly to the tendency for resource rich countries to grow slower than others. This has many reasons, such as the development of graft and corruption and in fact overlaps a bit with the definition of disease.

- Dutch Disease is related to a movement of capital and labour from other traded sectors to the resource sector; an increase in aggregate demand leading to overheating of the economy and inflation and appreciation of the currency, and (which is less analysed) the “spill-over loss effect” which refers to a crowding out of the non- resource-traded-goods sector, leading to permanent loss of capacity and technological progress.

- First, what are the indications that Norway in fact since about 1970 managed to avoid the disease?
- Compared to our neighbours, Denmark and Sweden which we lagged behind in per capita GDP in 1970 we have caught up and overtook them in the early 1990s.
- Compared to the USD, our currency has by and large depreciated rather than appreciated in the period 1971-2011.
- Compared to OECD we have done slightly better in terms of inflation and definitely not managed to set off rampant inflation.
- Although it is not that easy to determine in a simple way, some elementary graphing appears to show that the oil revenues have lifted the GDP graph without any decimation of the non-oil sectors

The question is then: How did we manage that?

I shall use a very simple and commonsensical “model” to explain. I will look at the initial economic political and societal conditions as they were before the oil “struck”. The initial conditions are underlying factors for the kinds of strategies and principles we adopted and which in turn propelled the practical policies and their implementation through a number of institutional innovations and changes.

Initial conditions

- In terms of economy we were a high income country with low unemployment. It was also important that we were experiencing a drop in the mechanical /shipbuilding industry which in the 50s and 60s had been an important pillar of the economy.
 - In terms of human resources we had a high level of education. Also, we had an equal income distribution which was important for example by making our engineers and other highly educated labour relatively cheap.
 - Underlying this is what I tend to call the Norwegian «DNA».
- We were a small, homogenous country: 4,7 million inhabitants , 323 802 square kms (a bit smaller than Zimbabwe) very few ethnic divisions worth mentioning.
 - Young country, independence 1905

> Christian Lutheran country with a state religion under the 1814 constitution. 83% of the population were members of the Evangelical Lutheran Church

> Country long ruled by the Labour Party which was key in politics since before the war. The party can be said to be social-democratic but, as some have said, all the parties in Norway are really social democratic. This gave impetus to egalitarian policies.

> Country with highly centralized wage bargaining, probably the highest degree of centralization in the world

- Nearly 60% of the labor force of around 2.6 million were unionised

- Membership of the main employers' organisation in Norway at around 60%.

> Country with a close relation to the sea. Our coast line is 50 000 km. which makes it longer than the entire west coast of Africa from the Cape to Gibraltar.

The principles adopted may best be briefly stated by referring to the so called ten oil commandments which were adopted by the Storting (Norwegian Parliament) in 1971, has underpinned Norwegian oil policy till now and in sum was meant to make sure that the oil activities benefited the whole nation. Key points were:

1. National supervision and control
2. To ensure maximum independence for Norway in terms of supply of crude oil
3. To develop new business activity based on petroleum
4. To have consideration for existing commercial activity, protection of nature and environment
5. That flaring for environmental reasons only would be allowed in limited test periods
6. That petroleum from the NCS as a main rule be landed in Norway
7. State involvement at all reasonable levels, coordinating national and industry interests
8. That a state-owned oil company should be established
9. That an activity plan would be adopted for areas in the north for socio-economic reasons
10. That Norwegian petroleum discoveries could present new tasks for Norway's foreign policy

How did this play out in actual concrete policies?

In terms of industrial policies one may talk about broadly two different directions, downstream and upstream. Many countries that start exploiting their natural resources focus strongly on adding value to raw materials before exporting them, i.e. going downstream. This was of course also a concern and to some extent done in Norway with greater and lesser success but the remarkable feature of industrialization based on the oil was Norway's luck or ability in going upstream. This has brought the industry and not least producers of intermediate and capital goods - with the help of Statoil - to a world class industry with special skills in deep sea drilling and exploration /production in rough waters. One may talk about the utilization of a niche.

This did not come automatically however. First, we had a faltering mechanical and shipbuilding industry that saw and used the business-opportunities for delivering structures needed for drilling and production in the North Sea, based on their prior experience in shipbuilding. At the beginning there were of course quite major imports of expertise e.g. real rough neck cowboys from the US run the platforms but our generally high level of education made it possible to replace them with Norwegian cowboys after a number of years.

We also used regulatory means to ensure that the qualified Norwegian companies were included as bidders for delivery of capital and intermediates to the industry (the rules we used are now no longer useable because of OECD and WTO regulations.) There was - in the office of the ministry of industry - a "Goods and Services Office" which saw to it that qualified Norwegian companies were included as bidders. Local content of the oil industry in Norway at times exceeded 70%.

From the third licensing round onwards we introduced a requirement to transfer competence and cooperation in the development of new technology by e.g. requiring that at least 50% of research and development needed to develop a prospect in Norway was done by Norwegian institutions. We also required specific research effort in advance of new licensing and generally,

through the so called “goodwill agreements” encouraged foreign companies to locate petroleum related research and development in Norway.

In the area of incomes policy, the danger of oil exploration and high profits in the sector would be that salaries and wages are driven strongly upwards, particularly during a period of scarcity of experienced labour. Norway had already - based on its egalitarian “DNA” - a way of handling this through the centralized bargaining system underpinned with the strong links between the ruling party and the unions, a key mechanism being the “exposed trades model” meaning that unions in sectors most exposed to international competition were taken as wage leaders at the times of negotiations. There had long been coordination between state, unions and employers through a permanent “Contact Committee”. We have since 1967 also had the “Technical Committee for Income Settlements” chaired by the Central Bureau of statistics which authoritatively laid out all the statistics and economic analysis needed in the bargaining processes. A “social contract” between citizens and government, and the success of increasing standards of living ensured acceptance and popularity of this system.

Taxation of the oil sector is the major source of revenue for the Norwegian state (now about ¼ of the total budget). At the start in 1971 the tax system looked like it does today in most developing countries, balanced between profits tax and royalties at the same level or slightly less than the taxation on enterprises on the Norwegian mainland. A radical change was made in 1975 after the explosive increase of oil prices after the “oil crisis” and the start of OPEC. Some adjustment over time has brought it to the present 78% tax on profits (consisting of 28% tax as for mainland enterprises and on top, a special tax for the oil sector of 50%). To avoid transfer pricing, the price for tax purposes must be based on a state-decreed norm price. The system looks very tough but one must take into account the fairly lax rules for depreciation and exploration expenses and allocated financial costs. A so called uplift of 30% (i.e. 7,5% per year for 4 years) shields the normal return from special tax by decreasing the tax base for the Special tax based on the investment done by the company. Also, the taxation is not levied by oil fields but company based.

This means that a company that invests and is in the process of building up its activities, perhaps over several fields, will not pay tax before the entire company is making a profit.

A strong pillar of the Norwegian system of petroleum resource exploration is state ownership exercised through the 67% state owned company Statoil and the State Direct Economic Interest which owns (for government) the shares of various foreign and Norwegian companies.

Underlying the case of Statoil is the historical agreement across the political spectrum that the state should play a crucial role in the development of both hydro power and petroleum based industrialisation. Statoil ASA was founded as a limited company 100% owned by the Government of Norway in 1972 through an act passed by the Norwegian Storting with the political motivation (a) to hold 50% state participation in each production license (b) to build up Norwegian competency within the industry, (c) to establish the foundations of a domestic petroleum industry. The company is under close scrutiny by government, required to submit an annual report to the Storting. Formally the company Statoil ASA became (partly) privatised and made a public limited company in 2001, listed on both the Oslo Stock Exchange and the New York Stock Exchange. The state ownership share of 81.7% reduced to 70.0% in 2004 -2005 and 67% later.

Statoil, at the beginning, managed the ownership shares of the other companies active on the continental shelf on behalf of the Norwegian government. A policy was established to mandate 50 per cent State participation in each production license. In 1993, this principle was changed so that an assessment of State participation was made in each individual case, determining whether the ownership interest will be higher or lower than 50%.

After some time Statoil became too big: ownership management were transferred to the State’s Direct Financial Interest (SDFI) set up in 1985, directly owned by the government but at first managed by Statoil. When Statoil was partially privatised in 2001 the company’s management of SDFI was no longer desirable and a new state-owned management company called Petoro was created to manage SDFI. Petoro is registered as owner for the state’s shares in presently 93 licenses.

The state will keep ownership interests in production licenses that, based on information available at the time of award, have high expected profitability, and in production licenses with a high volume upside.

The state pension fund (SPF-U) is a very important component of the state's financial management architecture and has been admired and tried emulated by many of the countries that handle major resource revenues. It is most important to realize that the Fund is not a pension fund in the normal sense of the word. The national pension arrangement in Norway is a bit like the Civil Service Pension Fund here in Zimbabwe, it is not fully funded so that the annual payments are part of the expenditure of the state budget. The objectives of the SPF-U are stated as follows by the Norwegian government:

The function of the Government Pension Fund is to support government saving to finance public pension expenditure and underpin long-term considerations in the use of petroleum revenues. A long-term and safe management of the fund helps to ensure that petroleum wealth can benefit both current and future generations.

The Fund is an instrument for general saving. The Fund does not have clearly defined obligations in the future. The aim of the investment is to maximize the purchasing power of the fund's capital at a moderate level of risk. A responsible investment practice underpins this.

The fund was established in 1990, long after the considerable revenues to the state started flowing. It was then called the Petroleum Fund. At the start of oil exploration and production and for some years following that, the idea was to slow down the resource flow by applying a physical ceiling to the amount of crude that could be pumped. This showed up, for techno-economic reasons, to be untenable.

The establishment of a sovereign fund then emerged but the Ministry of Finance opposed this feeling that the resource inflows could be handled by the ordinary budget mechanisms, and that the Norges Bank (the central Bank of Norway) could take care of investing the forex proceeds. At the end the fund was established but with a model strongly influenced by the Ministry of Finance. Since 2006 the fund has been called the Government Pension Fund – Global - the

reason for the name change presumably being to underline the common ownership and the long term nature and investment strategy of the fund. The first net deposition in the fund came only in 1996.

The Ministry of Finance is responsible for the management of the fund, and has delegated responsibility for the operational management to Norges Bank under Norges Bank Investment Management (NBIM). NBIM also manages the foreign exchange reserves' investment portfolio. At the macro level, the most important aspect of the entire architecture for handling oil revenue is the fiscal rule that handles the flow of resources from the fund into the government budget. The rule is that the Government structural non-oil budget deficit shall correspond to the expected real return on the Government Pension Fund Global, estimated at 4 per cent. This amounts to a way of insulating spending from oil revenue fluctuations and phase the oil revenue into the state budget gradually as the fund grows. The fund is presently at a value of around NOK 4000 billion = USD 700 billion (the biggest fund in the world according to most sources of information).

The fiscal rule is however not exercised mechanically, and considerable emphasis is placed on stabilising domestic economic fluctuations. The growth and employment drops caused by the international crisis 2008 -2009 were more or less averted by Norway, the state infusing vast amounts from the oil fund into the Norwegian economy. Lately, when oil prices have been good and the domestic economic activity is up again, the state has built up the fund again through channeling less money than the mandated 4% from the fund into the state budget.

What is the future for our system of handling the natural resources?

No doubt we shall see ups and downs of the international economy, in turn making it necessary to change the way we invest and use the fund. Also politics are politics and a number of issues are continuously debated by the Norwegian public and politicians.

In terms of Fund management a process has now been started under which we change the investment benchmarks, in principle putting more emphasis on the stronger growing and emerging economies. Also, we are discussing the possible

necessity of changing the fiscal rule to reflect the actual real return of the fund. The Norges Bank has proposed to reduce what we can take out of the fund down from 4 to 3 percent of the real return. There have been proposals to turn a small percentage (1%) of the fund into an investment fund for developing countries. Presently the Fund's investment in Africa is limited to South Africa, Kenya and Morocco.

In terms of the tax system we have the same problems as many developing countries in terms of international enterprises transferring funds to avoid taxes, we are active in the movement supporting international acceptance for country and project reporting, and have made ourselves a spokesman for international "Transparency guarantees" by which agreements on exploitation of natural resources will have to contain a clause requiring all companies to furnish information to the host country about their worldwide operations.

The system of the Norwegian labour markets, the high degree of centralized wage bargaining is under threat; the preservation of the 'frontier trades model' is strained as the oil sector companies can pay much more than mainland companies. Politically the main threat is of course a slide into populist spending, present governments wondering why they should strictly adhere to the fiscal rule and may be lose the election to more profligate competitors. So far the fiscal rule has held up.

Is the Norwegian experience of use to developing countries where huge natural resource revenues are on the horizon?

A key component of the Norwegian system is the Fund's role in successfully breaking the link between oil-revenue cycles and public spending. There is no reason why this cannot technically be done in other countries. A main difficulty is however that the perceived need for domestic investment in developing countries exerts a much greater pressure towards use of the resources domestically and may thus conflict with the absorptive capacity of the country. Also not all countries will have the political stability and relatively high degree of political agreement on resource issues that Norway has.

Is the Fund's role as a store of value giving modest contributions to the budget enough for a developing country? Collier in a presentation to Angolan authorities once said "You need to build up capital investments within the country, not financial assets in New York!"

The experience of national ownership of major industries has been disastrous in some countries. Norway has managed to balance (so far) between on the one hand stifling companies by bureaucratic controls and, on the other, letting Statoil exercise autocratic private sector style decision-making (although the last weeks revelations makes me wonder). Such a balance may be even more difficult in countries where the government machinery is less well-oiled and more influenced by political detail control.

The "upstream" part of the industrial development worked well in Norway, but few developing countries have had the same initial industrial base that could be transformed into a competitive and efficient supplier of capital and intermediate goods for the oil industry.

Even Norway has not avoided building oil dependence. This is an even greater problem for less diversified countries.

Setting up institutions was no "rocket science". Running institutions is key. On Statoil: being 67% state-owned and avoiding political interference is difficult.

To use a parallel from the world of forestry: You may plant the same seed but the shape and size of trees will depend on the soil they grow in.

PUBLIC-PRIVATE PARTNERSHIPS AND INVESTMENT IN INFRASTRUCTURE

The full version of this article was initially published as an OECD Economics Department Working Paper in the *International Journal of Public Budget*, No. 75

By Sónia Araújo and Douglas Sutherland¹

1. Introduction

Private sector involvement in the delivery of public goods is a long established practice in OECD countries. In the recent decades, faced with growing pressures to expand and improve infrastructure quality as well as enhancing competitiveness and economic growth, OECD governments have increasingly turned to public-private partnerships (PPPs) to provide public infrastructure services. In turn, PPPs are attractive to the private sector as the investment is recovered either by government transfers and/or by charges applied to the users of the facility (e.g. tolls). By reaping the benefits of private sector participation (pursuit of innovative solutions and better allocation of inputs), PPPs can be a superior solution to traditional public procurement, providing greater value for money. However, opting to deliver infrastructure services through PPPs is not without risks. First, the benefits of private sector participation are not guaranteed in a PPP. The outcome will depend on several factors, ranging from correct identification of the most efficient bidder, to appropriate risk sharing and the contractual relationship established between the public and private partners. Secondly, and perhaps more importantly, the temptation to use PPPs as a mean to circumvent budgetary pressures can lead to the inappropriate use of PPPs. Furthermore, by not including investment undertaken by means of a PPP in the public budget, large contingent liabilities can affect long-term fiscal and macroeconomic sustainability as well as transfer the burden to future generations. Policymakers need to analyse the merits of delivering infrastructure services through PPPs carefully, taking into account the specificity of the asset under consideration. Before deciding to deliver infrastructure by using a PPP, a careful

evaluation of its fiscal implications should be pursued together with a proper assessment of its merits vis-à-vis traditional procurement. Additionally, government bodies and agencies should ensure they select the most efficient bidder and that the contract structure effectively and properly allocates risks to the parties better equipped to deal with them. Finally, a stable institutional environment needs to be in place so that the public sector is regarded as a credible partner at the eyes of the private sector. The public sector should also build a pool of in house knowledge and expertise that is able to successfully manage and monitor PPP contracts and assist the different public bodies throughout the contracting process to guarantee that value for money is indeed achieved.

This paper provides an overview of the issues that are relevant for PPP contracting in network sectors². Section 2 highlights the distinctive features of PPP arrangements relative to other alternative mechanisms of delivering public infrastructure. This section also discusses the advantages and potential pitfalls of PPPs and presents an overview of how they have been used in OECD countries. Section 3 provides guidelines to ensure that the benefits of private sector participation are reaped and good quality of service provision is achieved. Section 4 presents a quantitative indicator on PPP frameworks that attempts to measure to what extent the existing features of PPPs in place in OECD countries enable governments to extract the benefits sought in a PPP. The indicator also allows to highlight the dimensions that need to be improved to achieve efficiency in contracting PPPs. Section 5 concludes.

1. Corresponding authors are Sónia Araújo (Sonia.Araujo@oecd.org) and Douglas Sutherland (Douglas.Sutherland@oecd.org). The authors would like to thank Jorgen Elmeskov, Giuseppe Nicoletti and Jean-Luc Schneider for their comments and also Irene Sinha for assistance in putting the document together. The opinions expressed in the paper are those of the authors and do not necessarily reflect those of the OECD.
2. For the purpose of this paper, infrastructure network sectors comprise transportation (roads, bridges, highways, railroads, ports and airports), utilities services (energy and water) and telecommunications.

2. The economics of public-private partnerships

2.1 PPPs: a specific form of private sector participation

A PPP agreement is defined as a long-term contractual relationship between a public body and a private partner (or a consortium of private firms) for the construction and operation of infrastructure. The private partner will be in charge of building, managing and asset maintenance, service provision and for financing the investment, in exchange of regular payments by the government and/or user charges. Under a PPP scheme the asset is typically owned by the private sector, but there are usually provisions in the contract for its legal property to be transferred to the public sector at the end of the contract. There are several variations to this basic definition, depending on the allocation of different risks between the public and the private partners, but almost all PPPs include both the building and the operation of a facility³.

2.1.1 Differences between PPPs and alternative approaches to infrastructure service delivery

PPPs are sometimes seen as occupying the middle ground between full public provision, where the asset is built through public procurement and managed by the public sector, and full private provision. The public nature of the services to be delivered and concerns with social welfare justify that decisions regarding investment, management and provision of infrastructure services remain under the responsibility the public sector.

Like PPPs, concessions make use of the private sector to achieve value for money. Unlike PPP contracts, the asset remains property of the public sector throughout the length of the contract. The concessionaire operates and finances the maintenance of the asset, but is generally not involved in its construction. In fact, the nature of the concession contract is such that it is the private operator that pays the government for the right to operate the asset. User charges constitute the bulk of revenues and many concession contracts do not envisage any payment from the government. This implies that the level of demand risk transferred

to the private sector is higher than the one transferred in a PPP contract. The underlying idea is that concessions are generally fully viable (because the asset is already put to use) while uncertain demand for a new infrastructure facility leads to PPPs often needing financing from the government (Andres and Guasch, 2008). Without the absence of these guarantees, the private partner bears all demand risk.

However, there are many overlapping issues between concessions and PPP contracting: the selection of the most efficient bidder and, given the necessary incomplete nature of these type of contracts, the design of mechanisms to (a) ensure an appropriate and effective transfer of risks and responsibilities to the private sector, (b) mitigate hold ups in investment throughout the life of the contract and (c) minimise the potential opportunistic behaviour from the private sector and avoid engaging in costly renegotiation at the expenses of the public sector.

A PPP contract implies greater participation of the private sector compared to traditional procurement as it transfers to the private sector both the construction and the operation of the asset, including its maintenance⁴. Under a PPP contract the private sector is also responsible for financing the infrastructure investment. PPP contracts are set over lengthier periods of time, compared to the ones signed under traditionally procurement, in force only for the time necessary to build the infrastructure asset. Lengthier contractual relationships call for contractual flexibility under a PPP, as output specifications and service standards will possibly become obsolete during the life of the contract. Long term contracts raise new issues, such as the need of ensuring an optimal level of investment throughout the contract, and dealing with contract re-negotiation and the possibility of opportunistic behaviour. These issues are also present in franchises, given the long term nature of these contracts.

2.1.2. Rationale for private sector participation

The advantages sought from the private sector in infrastructure provision stem from the fact that it allows more efficient outcomes to be achieved,

3. See IMF (2004) for a taxonomy of PPP agreements and OECD (2008) for a discussion and classification of the different types of risk entailed in a PPP contract

4. Traditional procurement corresponds to a situation where the construction and the operation phases are "unbundled": the public sector contracts a builder to construct a facility, while keeping the responsibility of delivering the services. Under public procurement, the government retains all responsibilities (risks) related to the project.

by incorporating in the infrastructure project the private sector know-how and technical expertise to provide innovative approaches and managerial abilities to coordinate the several stages entailed in a PPP: finance, design, build, operation and maintenance of an infrastructure facility. A PPP, in contrast to public procurement, bundles the construction and the operation phases, thereby creating incentives for the private contractor to internalise operational and maintenance costs on its investment decisions during the construction phase (Hart, 2003). The private partner will then seek to identify the design and construction options that can potentially minimise the costs of construction and provide better service quality.

There are a number of reasons for seeking the involvement of the private sector in the provision of infrastructure investment. They include:

- *Financial expertise.* Outside finance will bring in financial expertise that can contribute to a better evaluation of the risks entailed by a project and better monitoring of the private operator's efforts.

- *Sharing risk.* The involvement of the private sector can also lead to better risk management. The private sector will likely have a better appreciation of the risks involved in a project, both due to superior project management expertise and the frequent requirement of exerting due diligence before embarking on a project. The risks attached to an investment can in principle be shared between private operators and the State, with each bearing the type of risks – and associated incentives – for which they are most suited. Generally, risk that is difficult to control or forecast should not be borne by the contractor, which is often the case for demand side risk. In some cases, governments have assumed this risk, by subsidising the contractor if demand falls below a certain level. Instead, construction risk and availability risk are more appropriately borne by the private sector.

- *Introducing competitive pressures.* Tendering introduces an element of competition ex-ante, for the market (Demsetz, 1968). The introduction

of competitive pressures ex-ante is also present in traditional procured infrastructure delivery.

- *Budgetary pressures.* Finally, there may be an interest in using PPPs to disguise pressure on public finances. However, in such cases, investment decisions – by precluding appropriate alternative investment arrangements – will lead to suboptimal outcomes⁵. This suggests that the approach to using PPPs must rely on a proper and transparent assessment of their expected long term impact on public finances (OECD, 2008). A stark example occurred in Hungary with major PPPs for motorways recorded off budget in 2005 and 2006, despite the partnership involving a state-owned enterprise. Eurostat ruled in 2006 that these expenditures needed to be reported, which boosted the deficit by almost a full percentage point of GDP in that year.

2.2 Specific features of PPP arrangements

2.2.1 Bundling: benefits and caveats.

The particular attraction of the PPP concept relies on bundling the asset construction and operational phases, so that they are undertaken by the same agent (the contractor, a firm or a consortium). Bundling construction and asset management induces the private partner to consider the asset's long term performance, that is, to take a “whole life asset management” approach. Compared with traditional procurement, quality concerns can be better addressed under PPPs if high quality infrastructure reduces operational and maintenance costs. In this case, the contractor internalises these costs and, when deciding construction options, chooses a level of quality that minimises all operational, maintenance and construction costs. This positive externality between quality and operational costs provides incentives for the contractor to invest in asset quality⁶. Bundling then constitutes an optimal strategy from the point of view of the public sector, as it raises welfare by inducing the private partner to exert effort on construction quality⁷.

5. This remains the case when PPPs are used to circumvent fiscal rules that constrain government investment, which may be justified when taking into account longer time horizons (Blanchard and Giavazzi, 2004).

6. For example, Winston (1991) reports that small increases in pavement thickness can dramatically lengthen the life of the pavement and reduce maintenance costs.

7. This is a strong result of the theoretical literature that arises in both complete and incomplete contract scenarios. The complete contract theory focuses on the asymmetric information between the public and private sector, where the public sector cannot observe the level of effort of the contractor, while the incomplete contract theory focuses on the impossibility of making the contract contingent on the level of quality. See Hart et al. (1997), Hart (2003), Martimort and Pouyet (2008) and Iossa and Martimort (2008).

In case of a positive externality, the optimal contract should lean towards high powered incentives, to encourage the contractor to internalise the benefits of bundling.

When the externality is negative (i.e. improving the quality of infrastructure increases operational costs), the effects on incentives are negative or absent. In this case, PPPs will not be superior to traditional procurement, as the investor will just pursue cost saving investments, not caring about service provision, just as in the procurement case. The solution to enhance effort in quality is to grant the contractor ownership of the asset. Ownership rights will allow the builder to benefit from the infrastructure's residual value at the end of the contract, providing an incentive to invest in asset quality⁸. The residual value will depend on the specificity of the asset. More generic facilities (such as leisure centres and public housing), for which there is demand other than the government, are more valuable as an outside option than specific facilities who have limited use outside the public sector (prisons, hospitals, schools). Hence, the incentives to invest are greater when the private partner has the ownership of the asset and the asset is less specific.

2.2.2. Risk allocation

Risks in PPP projects need to be appropriately and effectively shared between the public and the private partners so they achieve cost savings and quality improvements vis-à-vis traditional procurement. The optimal allocation is the one that assigns each risk to the party that can better manage it. More specifically, the government should keep hold of the risks that the private sector cannot control, or affect. Given this rule, **construction risk** is generally best borne by the contractor. Effective allocation of **demand risk** is crucial to achieve good quality of service provision and the same reasoning should also apply to deciding which party should bear it.

Demand risk allocation will then depend on the relationship between the payment and the actual use of the infrastructure facility.

Demand risk should stay with the government⁹ when it is the buyer of the services provided by the private sector and its actions and policies affect demand level (such as in the case of schools and prisons). Investment should then be financed through a transfer from the government to the private operator. Conversely, if the builder's actions have an impact on demand (e.g. road quality or cost), transferring the risk to the contractor helps incentives. In this case, investment should be financed through user fees (financially free standing PPPs). However, these high powered incentives should only be used when risk aversion and demand risk is small. Financially free standing projects can result in excessive risk transfer and the public sector may have to intervene later on, through costly renegotiation and transfer payments to the private operator. When risk aversion or demand uncertainty is large, the optimal contract is characterised by a minimum revenue guarantee (which is independent of the actual usage of the facility), and a cap on the contractor's revenues (Engel et al, 2006).

In practice, even if the contract transfers design, construction and operation risk to the private partner, the government remains the provider of last resort, given its interest in guaranteeing service provision. For instance, in case of a cost overrun, private contractors will exploit public interest considerations, forcing the government to intervene to minimise service disruption. Moreover, re-tendering a PPP contract implies a long and costly process as well. Hence, when it comes to risk allocation, it may well be the case that the allocation of risks written down in the contracts does not correspond to the effective risk allocation. In this respect, it is crucial to carefully assess demand risk prior to calls for tender being made.

8. See Besley and Ghatak (2001).

9. For the purpose of this paper, the term "government" is used in a broad sense, and encompasses all public bodies that are allowed to contract PPPs.

10. The Channel Tunnel Rail Link constitutes an example of the difficulties involved in forecasting demand. After bailing out the private contractor, the Transport Department revised downwards passenger numbers and revenue forecasts in 1998 and again in 2000. However, by 2004 both figures were still below the 2001 low case projections. The forecasts conducted in 2004 predict that annual revenues will remain below the 2001 low case scenario until about 2050 (NAO, 2005).

Examples of poor PPP performance related to demand risk in the OECD include:

- The Fertagus suburban rail passenger service. The initial contract formally transferred demand risk to the concessionaire, but established that the government would assume the debt if traffic remained below the lower traffic-band level for several years. This event materialised, and contract renegotiation took place, with the government being in a relatively weak position (Monteiro, 2008). The Portuguese Court of Auditors now recommends against transferring the demand risk to the private sector.
- The Channel Tunnel Rail Link. In February 1996 the UK Department of Transport awarded the contract to London & Continental Railways Limited (LCR). LCR planned to fund the construction of the Link by raising private finance on the back of future revenues from Eurostar UK and direct grants from the government. However, demand for the Eurostar train service ran well below LCR's forecasts and the company was forced to abandon its plans to raise private finance and requested the government additional grants¹⁰.

Highway projects in the Czech Republic, Croatia, Hungary and Poland. Besides unrealistic demand projections, other factors such as the unfavourable institutional environment during the transition period and suboptimal project design also contributed to the poor outcomes (Brench et al, 2005).

2.2.3. Long term contracting

To attract private sector participation, PPP contracts typically span for a few decades to guarantee a sufficient stream of revenues that will compensate the private partner for the investment made. But long term contracting poses a new set of challenges that need to be dealt with in order to guarantee the benefits of private sector participation. These are the suitability of long term contracts to sectors where demand or supply conditions change rapidly in ways that cannot be

foreseen and several hold up problems motivated by the incomplete nature of long term contracts, which may lead to opportunistic behaviour and underinvestment.

Long term contracts are unsuitable for sectors where users' needs or technology change fast:

Given the long-term nature of PPP contracts, the contractual relationship between the public and the private partner needs to be flexible. When it is possible to anticipate the conditions that may affect the adequacy of the initial contractual clauses (e.g. changes in capacity), these should be regulated by the initial contract.

However, long term contracts do not favour the introduction of innovations in service provision as changes are costly to renegotiate. This caveat can be partially offset by specifying in the contract the events that may justify a revision of the contractual clauses. In practice, it is not always possible to identify all possible events that may affect the suitability of the contract to changes in the economic environment, such as unpredicted shifts in demand preferences regarding service provision and fast and unpredicted course of technical progress. The IT sector is probably the sector more exposed to unpredicted changes in supply conditions while prisons, schools and the health sector have been identified as the sectors more exposed to unforeseen changes in demand conditions¹¹. Conversely, they are more appropriate for transportation and water, where infrastructure quality is central to good service delivery and demand is relatively stable.

Long term PPP contracts increase uncertainty when compared with short lived traditional procurement contracts. This increase in the risk in the contractual relationship stems from the incomplete nature of long term contracts, which make it impossible and/or extremely costly to identify all possible courses of events and assign to each a contract rule. This situation gives rise to several hold-up problems.

Opportunistic behaviour of the contract winner: Following the bidding stage, the contract winner may re-open negotiations over the terms of the contract to force a more favourable structure¹².

11. In the United Kingdom, two large projects - the National Insurance Recording System 2 and the Passport Office were very public failures of large ICT-related PPPs. The HM Treasury now recommends against the use of PPPs in IT projects (HM Treasury, 2006). The UK is the only country that has used PPPs in the telecom sector, but none has been signed since 2000 (Dealogic Projectware Database).

12. This is termed "hidden rent backloading" by Maskin and Tirole, (2007). Empirically, at least in Latin America, this appears to be a common form of hold-up (Engel et al.

This can arise with major infrastructure projects when the private contractor threatens insolvency or potential service interruption, often leaving the government little alternative to reopening negotiations. New contracting techniques can attempt to mitigate opportunistic behaviour, by specifying allowable debt, penalties and conditions to re-open negotiations. Nevertheless, the incentive to exploit the government's weak position given the alternative of long and costly re-tendering and its interest in guaranteeing service provision does not vanish completely.

Regulatory uncertainty or opportunism: the threat of expropriation given the sunk costs of the investment: Regulatory opportunism refers to the risk of unilateral changes of the contractual clauses by the government.

The long term nature of the contracts makes it more difficult for governments to pre-commit to future policy. This applies to situations of political uncertainty due to a possible change in government attitudes towards conducting infrastructure investment through PPPs, brought by elections. For instance, Brench et al. (2005) report that, in Hungary, frequent changes in political attitudes regarding the desirability of PPPs have been identified as a major drawback for a coherent PPP policy. Regulatory opportunism also applies to situations of weak governance in the public sector. Among the motives that can lead the government to cancel PPP contracts are electoral considerations in which the government, by cancelling the project, may increase the possibility of getting re-elected through increases in public spending, hence creating jobs and boosting economic activity, while also avoiding opposition surveillance (see Guasch, 2004 and Engel et al., 2006). Environments characterised by high regulatory risk will not create incentives for investment in asset quality, as the private contractor will be confronted with the possibility of expropriation. Hence, PPPs are preferred in stable and sound

institutional environments, where there is a consensus towards honouring contractual arrangements with the private sector. Otherwise, the benefits of whole-life asset management brought by PPPs cannot be reaped.

Capture: This situation occurs when the private operator seeks to influence a policy decision maker to favour bundling, even if this decision is not socially optimal. It is again a situation of weak governance, where a non-benevolent decision maker is tempted by the potential private benefits he/she may earn by favouring private consortia's preferences towards PPPs, leading to outcomes where decisions are not aligned with welfare maximising concerns¹³. In this case, as well as with regulatory opportunism, cost-plus contracts should be preferred (Martimort and Pouyet, 2008).

Under investment: Increasing regulatory risk will discourage private investment, by raising the cost of capital and the risk premium paid for a PPP contract. The private operator will be reluctant to invest, as it fears that the benefits of the investment will be expropriated, once the costs of the investments are sunk. Additionally, a second hold-up problem will take place when the PPP contract is close to expire as the private partner expects not to enjoy fully the benefits of the investment (or not to be compensated by the government at the end of the contract). This situation will result in underinvestment in the later stages of the PPP contract. The problem can be mitigated if renewal is biased in favour of the incumbent (Laffont and Tirole, 1993), although in this case the competition benefits of private sector participation are lost. Another possible solution is to increase the incentives over time so to foster the firm's efforts to renew investment at later stages of the contract. This could be accomplished by switching from cost-plus contracts in early periods to fixed-price contracts close to the end of the contract, even though it may be suboptimal for rent extraction purposes (Laffont and Tirole, 1993).

13. This problem is similar to the one brought by regulatory capture. Stigler (1971), Posner (1971, 1974) and Peltzman (1976) were among the first to highlight the possibility that the regulator may not always be concerned with the interests of society as a whole. See Armstrong et al. (1998) for an overview.

Yet another solution is to create a setup in which the public and private sectors meet regularly and the public sector develops a reputation for being fair, by not expropriating the firm's investment. In these lines, Salant and Woroch (1992) suggest that, if capital can be spread over time, investment could be done in stages, with the cost of each stage being met as soon as it is completed¹⁴. Conditional on past experience, either party can withdraw after each stage of the investment process¹⁵. This approach may give incentives to provide higher quality investment without having to resort to detailed contract specification and it sidesteps to some extent the possible trade-off between shortening an often lengthy tendering process and engaging in costly contractual renegotiations if the contract is not well specified.

Finally, asset ownership can incentivise investment, especially in the case of generic facilities and if the firm is not required to give priority to the government at the end of the contract, thereby fully enjoying the asset's residual value. Finally, a note of caution: it should be noted that the underinvestment problem stems from the very own nature of PPP agreements and the characteristics of infrastructure assets, i.e., that the government cannot commit ex-ante not to exploit the sunk nature of capital investments. Hence, the mechanisms suggested cannot fully tackle this problem, although they can alleviate it to some extent.

2.3 Public-private partnerships in OECD countries

The analysis in this section is based on an ad hoc OECD questionnaire on infrastructure investment and on data coming from the Dealogic Projectware database. OECD member countries' responses to the questionnaire provide detailed information on countries' policies on franchises and PPPs and the surrounding regulatory environment as of late 2007 or early 2008¹⁶.

In turn, the Dealogic Database provides a broad range of information on the use of public-private partnerships in OECD countries. In total, by the time data was extracted (19/02/2008), this database contained information on nearly 2 000 PPPs, covering: "The financing of long-term infrastructure, industrial projects and public services based upon a non-recourse or limited recourse financial infrastructure where project debt and equity used to finance the project are paid back from the cashflow generated by the project."

2.3.1. Overview

Over the two recent decades, PPPs have been gaining importance in many OECD countries as an alternative way to provide infrastructure (Figure 1). According to the answers given by OECD countries to the Infrastructure Questionnaire, central, regional and local governments, as well as governments agencies and public firms have the power to contract PPPs.

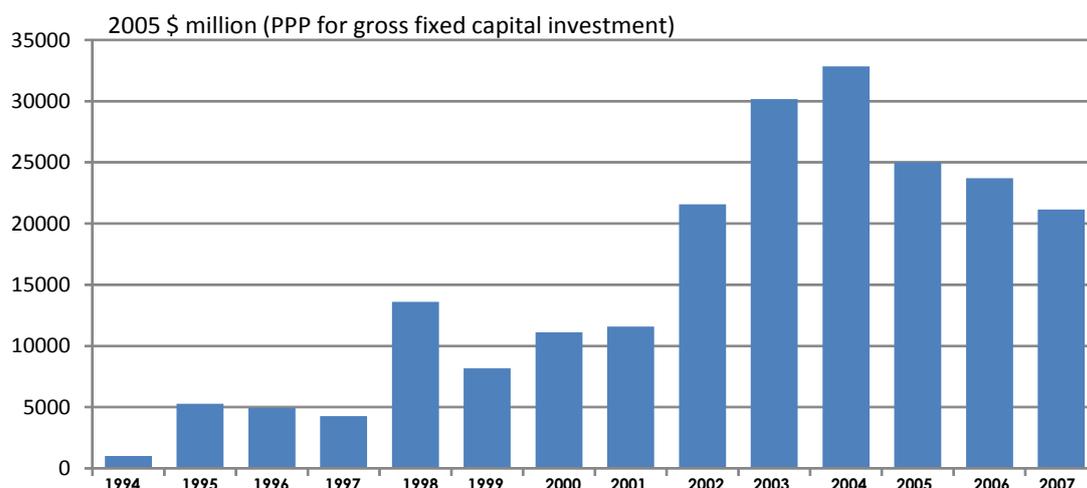
The number of infrastructure projects undertaken through PPPs has increased, roughly doubling between the beginning of the decade and 2007, though falling somewhat after the middle of the decade (Table 1). Most of the contracted PPPs are in the transportation sector, particularly roads, with very few projects signed in the telecoms and energy sectors. While PPP projects are relatively frequent in the water and sewerage sectors, they tend to be comparatively small such that their share in cumulative PPP projects is quite modest. At the same time, the median size has remained relatively stable at around \$200-\$300 million. Individual projects, however, can be extremely large. In particular, transportation infrastructure projects – such as the UK's channel tunnel rail link in 1998, the London Underground in 2002 and the Italian Autostrade in 2002 – can account for around one-third of total announced investment in any given year.

14. See also Gilbert and Newbery (1988), Croker and Reynolds (1989), and Salant and Woroch (1991).

15. This solution reflects some procurement practices in the United States, variously called Job Order Contracting, Delivery Order Contracting or Simplified Acquisition of Base Engineering Requirements (Pitchford and Snyder, 2004).

16. Twenty seven of the member countries at the time the questionnaire was distributed sent their answers (non-respondent countries were Greece, Iceland and Poland). However, answering rates varied greatly between questions, being generally highest in questions regarding regulators and their powers and also pricing policies. Response rates were low for questions on concessions and franchises and to a lesser extent for PPPs, which reflect the limited use some countries have made of this instrument of delivering infrastructure. Also, answering rates were highest in the energy, telecommunications and air transport sectors and lowest in non-sector specific question areas.

Figure 1. Value of announced PPP deals, 1994-2007



Source: Dealogic Projectware database (data extracted 19/2/08).

Table 1. PPPs in Infrastructure by sector

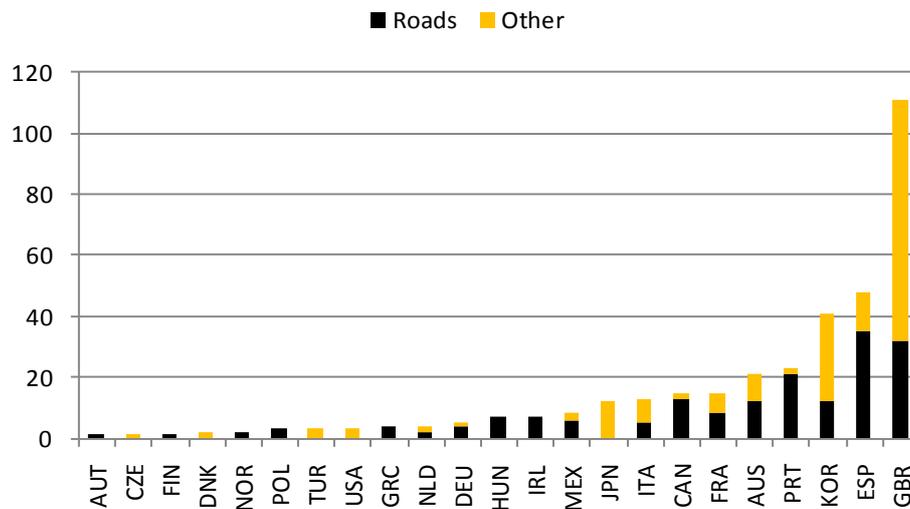
	Share in cumulative total		Share 1994-2000	Share 2000-2007
	1994-2007	Number of projects		
Energy	1.75	17	0.99	1.96
Water	2.05	45	2.14	2.01
Road	51.76	163	58.32	50.15
Rail	26.60	38	24.28	27.10
Transport Other	14.37	49	9.88	15.60
Communications	0.86	6	3.23	0.14
Other	2.61	44	1.14	3.04
Sum	100	362	100	100

Source: Dealogic Projectware database (data extracted 19/2/08).

Project finance deals were recorded in 23 OECD countries by the end of 2007, but only a small number of countries account for the majority of contracted projects. In particular, the United Kingdom accounts for around 30% of the total number of recorded PPPs and the cumulative volume of deals in the OECD area, which together with projects in Spain and Korea comprise more than half of all signed PPPs (Figure 2). For most OECD countries, PPPs are concentrated in the road sector, with Austria, Finland, across sectors include Italy, Japan, Korea and the United Kingdom. The United Kingdom, Korea, Spain

and France register a higher number of PPP contracts in the railways sector, with the United Kingdom being the only country to have signed PPPs in the IT sector. Greece, Hungary, Ireland, Norway and Poland having signed PPPs exclusively in this sector (at the time the data was extracted). On the other hand, Czech Republic, Denmark, Japan, Turkey and the USA had not contracted any PPP in the road sector at the time the data was extracted. Countries that have a more diversified distribution of PPPs

Figure 2. Distribution of the number of contracted PPPs in the OECD



Source: Dealogic Projectware database (data extracted 19/2/08).

Table 2 displays the average time length of PPPs and concessions. The average concession period across sectors is around 30 years, though it can range from just 3 years to over 100 years in exceptional cases in the railways and roads sector.

The average duration of contracts is higher in transport sectors, particularly in maritime transportation, roads and railways¹⁷.

Table 2. Average contract length across sectors

Sector	Average Contract Length, Years	
	Dealogic	Questionnaire
Ports	42	26
Roads	39	31
Railways	35	19
Airports	27	37
Water and Sewage	25	18
Energy	20	33
Communications	14	18

Source: Dealogic Projectware database (data extracted 19/2/08) and the OECD Infrastructure Questionnaire.

Regarding the type of PPPs contracted, specifying the set of responsibilities transferred to the private sector, the majority of projects that detail their structure are so-called Design Build Finance Operate (DBFO), accounting for 40% of all deals; the next most frequent are Build Operate Transfer (BOT) that account for around 10% of all projects.

Other arrangements are less frequently used.

2.3.2. Performance evaluation

The performance of PPP vis-à-vis traditional procurement has been assessed by comparing time delays and cost overruns. So far, the evidence is inconclusive.

17. The sector averages obtained from the projects in the Dealogic database differ somewhat to the answers given by countries to the Infrastructure Questionnaire. The answers to the Questionnaire put airports and energy at the top of the ranking of average concession length. In general, sector averages are higher in the Dealogic database, with the exception of airports and energy. However, contract length is not displayed for all projects in the Dealogic database. Also, the Questionnaire asked for average contract length for concessions, and OECD countries may not have included the length of sectoral PPPs in their answer. These two factors may contribute to explaining the discrepancy between the two sets of averages.

So called PFI projects in the UK seem to be both time and cost saving. The National Audit Office (NAO, 2003) analysed 37 PFI construction projects that had been contracted by the central government. The report concludes that only 22% of PFI projects registered cost overruns, compared to 73% of traditionally procured projects. Moreover, the cost overruns in the PFI projects resulted from changes to the specifications demanded by the public sector or other parties after the contracts had been awarded, which would also have led to an increase in price under public procurement. The report also reveals that while 70% of the construction projects carried out through traditional procurement were not delivered on time, late delivery only occurred in 24% of PFI projects¹⁸. The same report concludes that PPPs in roads, bridges and prisons generally succeeded, while the experience is negative for IT and soft services. For hospitals and schools PPPs, the evidence is mixed.

In other cases, the benefits from PPPs are less pronounced. For example, there is some evidence of PPPs resulting in higher water prices in France (reflecting ‘true’ cost or just increasing costs because the project was undertaken through PPPs)¹⁹. Blanc-Brude et al. (2006) compare the costs of roads under PPP and traditional procurement based on ex-ante cost estimates and find that projects carried out through PPPs are more expensive. However, the difference found is approximately equal to the size of cost overruns in traditional by procured road projects.

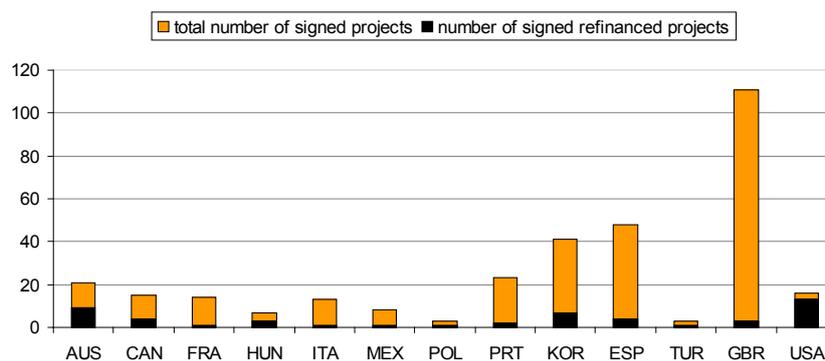
Their results suggest that this difference is motivated by the transfer of construction risk to the private sector in PPP schemes.

In the Dealogic database, only 13 projects were terminated, 10 of which were in the road sector. The reasons for cancellation vary: three were converted into traditional procurement, one concession was returned to the government with the private partners contracted to carry out maintenance, but without project finance.

Other motives include the failure to pass environmental requirements, local opposition to the project, government changing views regarding toll roads after elections, and new project analysis pointing out inadequate finance. The two railway projects were suspended by the government. While one of them is going to be scaled down, the other is going forward as a traditional procurement project.

The database includes 53 PPP projects that were refinanced between 1995 and 2007, 3 of these had not yet been signed at the time of information collection. In this period, thirteen OECD countries refinanced and signed 50 projects, 34 of them in the road sector. Figure 3 displays the number of refinanced projects signed by OECD governments relative to the total number of signed projects. In Australia and Hungary, more than 40% of signed PPPs were refinanced, while in the United States this figure raises to 80%.

Figure 3. Refinanced projects in the OECD



Source: Dealogic Projectware database (data extracted 19/2/08).

18. See also Arthur Andersen and Enterprise LSE (2000).

19. Saussier (2006).

3. Ensuring value for money – guidelines

As shown above, a PPP type contract will not always be superior to traditional procurement approaches or to the cases where the government itself provides infrastructure. This section establishes the criteria needed to determine whether PPPs are a good solution for infrastructure delivery and also to guarantee that the full benefits of PPPs can be reaped. Good practices are highlighted, drawing from countries responses to the ad hoc OECD questionnaire on infrastructure investment.

3.1 Embarking on a PPP

Decision making framework. A robust decision-making framework is essential in ensuring that the PPP is the appropriate investment structure. A cost-benefit analysis of PPP relative to traditional procurement should be undertaken. Moreover, the net benefits of a project should be calculated using a whole-life cycle approach. Most countries (except Norway and Turkey) report that they compare PPP and traditional procurement methods before contracting out infrastructure investment. Roughly one half of questionnaire respondents noted that the government will consult with an independent body over the desirability of a PPP in infrastructure, but only three countries report that performance is evaluated ex post by an independent body.

Minimising transaction costs. Infrastructure projects delivered through PPPs typically embody higher transaction costs, given their longer tendering phase and higher bidding costs compared with traditional procured projects. Moreover, the fact that PPPs involve private finance implies that financing the investment under a PPP is more costly than under traditional procurement²⁰. Transaction costs are to a large extent independent of the size of the project, rendering PPPs inappropriate for low-value projects. One way to circumvent this problem is to set minimum project value requirements for a PPP to be considered as an infrastructure delivery option and to allow small infrastructure projects to be bundled to achieve a critical size. In the

OECD, Austria, Belgium, Ireland, Portugal and the United Kingdom set minimum project value requirements for infrastructure projects, while Austria and Belgium report to allow bundling of small projects.

Delays in obtaining planning permission as well as necessary local authority and environmental approvals can cause time delays and cost overruns in PPPs contracts (Monteiro, 2005). However, only eight countries reported obtaining all of these permissions before calls for tender; ten countries reported that environmental licences are obtained and two countries reported that neither licences nor planning permissions are obtained before calls for tender (Denmark and Netherlands). Transferring licensing risk to the private sector is costly, as bidders put a high premium on this risk (Monteiro, 2008). If the public sector retains this risk (by not obtaining the necessary licenses prior to tender), it will have to compensate the private sector for unforeseen project changes required by the licensing process, with the associated risk of lengthy renegotiation, possibly aggravated by the opportunistic behaviour of the private sector.

3.1.1. Accounting the fiscal impact of PPPs

The implications of PPPs on public accounts should be correctly evaluated so that the public sector does not incur in unexpected losses, transferring infrastructure costs to future generations. For instance, the comparison of the costs between private and public finance can be distorted if governments discount the future payments heavily as a result of their time preference (Grout, 1997). Moreover, not correctly assigning the costs of PPPs to the government budget will necessarily distort the analysis about the merits of PPPs compared to traditional procurement.

A thorough assessment of the long-term fiscal implications should be part of the decision making process. In fact, given the nature of PPP contracts, even if risk is transferred to the private

20. A proper analysis of the costs of private finance should take into account the possible distortionary effects of the taxes raised to finance the investment in the case of public procured projects. This consideration is more relevant for PPP projects which entail user charges as the stream of revenues rather than transfers from the public sector.

sector, governments still entail a significant risk as the private partner may try to renegotiate the contract. Given the threat of service interruption, governments can be forced to make unanticipated transfers to the operator. Despite these risks, only nine countries responding to the OECD questionnaire report that PPPs are accounted for as contingent liabilities in government accounts²¹.

A correct assessment of the implications of PPPs will discourage its use to shift spending off government's balance sheets. This is important, as the treatment of PPPs does not always reveal the extent to which PPPs are being used. For example, in the European Union, Eurostat classifies the assets of PPP projects based on three types of risk: construction, availability and demand risk. According to this rule, the assets that result from the PPP are classified as government assets if the public sector retains most of the risk²². This will lead to most of the assets being classified as private as the contractor typically bears construction and availability risk (Corbacho and Schwartz, 2008). The government can bear other risks, including demand risk while the PPP is treated as a private investment.

This classification does not reflect effective fiscal risks borne by governments. Moreover, it does not encourage an efficient risk share either, and can create moral hazard, as governments, faced with tight public budgets, will be tempted to choose an allocation that aims at passing the Eurostat test, classifying a PPP as private to meet the GSP criteria. Biasing the decision on how to deliver infrastructure in favour of PPPs exposes governments' to the risk of unplanned debt, at the expenses of future generations.

3.2 Tendering

Bidding for PPPs entails significantly higher costs than for traditional procurement. Higher bidding costs stem from the bundling of the construction and operation phases which renders PPP

projects significantly more complex than the ones that are publicly procured. Dudkin and Vålilä (2005) analyse the level of transaction costs involved in PPPs during the bidding and negotiation phases and estimate them to reach 10% of a project's capital value. Blanc-Brude et al. (2006) analyse ex-ante construction costs (costs borne before construction actually starts) in a sample of PPPs in the road sector financed by the European Investment Bank between 1990 and 2005 and find that these are about 20% higher than traditionally procured road projects. Chong et al. (2006) also find evidence of the importance of transaction costs for French water distribution.

The higher complexity of PPP projects limits the number of bidders in relation to public procurement, making collusion a possible outcome, undermining the case for PPPs²³. According to NAO (2007), PFI projects in the United Kingdom do not receive enough developed bids for a viable competition to exist. For PFI projects between 2004 and 2006, NAO (2007) reports that 30% of the projects only received two bids, 50% received three and 20% received four bids.

The NAO report identifies lengthy tendering periods and high bid costs as the main causes behind the low level of bidders.

One possible solution to increase the potential number of bidders for a PPP project is to allow international companies and consortia to participate in tendering. The answers to the OECD infrastructure investment questionnaire reveal that there are few restrictions on bidding for franchises or concessions. In the OECD, only two countries (Finland and Korea) note that there are constraints on international bidding. Most countries report there are legal obligations to determine the criteria for winning a tender and to publish these criteria (15 and 16 out of 19, respectively). Furthermore, most countries also allow the decision of the contract authority to be challenged in court²⁴.

21. See Irwin (2008) for a proposal on ways to impose limits on PPP commitments, under the broader objective of incorporating them into fiscal targets.

22. The government bears most of the construction risk if payments to the private partner are not linked to the state of the asset; the government bears most of the availability risk if payments are independent of service delivery; if the government makes payments to the private sector independently from the demand level, the government bears most of the demand risk. For a detailed discussion on the Eurostat rules see IMF (2004), Corbacho and Schwartz (2008).

23. Auction design can have an important consequence on ex-ante competition, as demonstrated by the disparity of outcomes during the auctioning of UMTS of "third generation" mobile-phone licenses at the beginning of the decade (Klemperer, 2002).

24. There is one caution with ensuring competition that arises when quality is poorly observable but an important determinant of cost. In this case there may be a danger of awarding the concessions to the lowest-quality provider.

Additionally, so-called PPP Units (typically public or partly public agencies) can assist private bidders in shaping their proposals to meet the requirements of the public sector by providing detailed information regarding the infrastructure projects sought, bidding application procedures and PPP implementation. Disseminating information and technical expertise on PPP contracting would encourage private sector participation and contribute to a decrease in bidding costs.

Expertise is a key emerging constraint in managing PPP projects. PPP Units constitute a centre of public sector expertise, contributing to monitoring PPP performance. They can also facilitate the spread of knowledge and the exchange of experiences across the different government bodies that can contract PPPs (especially to local and regional government bodies, with less experience in managing PPPs). Different approaches in the public sector have been taken, such as specialist units in the Ministry of Finance (Ireland and Italy) or quasi-public bodies such as the UK²⁵. With the aim of sharing PPP experience and helping disseminate information within the public sector in Europe, the European Investment Bank, the European Commission and the European Union member and candidate countries have launched in September 2009 the “European PPP Expertise Centre”²⁶.

The EU Commission has introduced a new selection procedure, labelled “Competitive Dialogue”, which is meant to be applied to complex contracts such as PPPs²⁷. It seeks to maintain the competition tension for longer and to reduce the scope of renegotiation after the preferred bidder has been selected. Under this mechanism, the bidders selected in the prequalification stage are invited to participate in a dialogue with the aim of identifying and defining the means best suited to meet the needs. This will take place in successive stages to reduce the number of solutions (including pricing) discussed and the bidders involved. Once the solution has been found, the contracting authority declares the dialogue phase to be closed and final tenders are sought. This procedure may indeed bring down the possibility of opportunistic behaviour, by identifying alternative providers for the asset, but may also increase tendering costs.

3.3 Contract structure: Managing a long term relationship

3.3.1. Focusing on output specifications

If the outcome of the decision process favours a PPP as the instrument to deliver a specific infrastructure, the following step is to carefully design the contract in order to extract the benefits stemming from private sector participation in terms of innovative technical solutions and management skills it may bring to the project. However, contract design is not always structured so as to exploit the potential advantages of PPPs, frequently specifying input rather than output specifications, which reduces the ability of the private firm to improve quality in the construction phase. In the questionnaire responses, 12 countries reported setting input specifications against 16 reporting that output specifications were used.

3.3.2. Effective and appropriate risk share

PPP agreements are long term contracts, typically lasting for about 30 years. Contract length should be higher in sectors where demand risk is low (as in the water sector), and lower in sectors where demand conditions can be hard to forecast such as certain projects in the transport sector.

During the time the contract is in force, it will probably have to be renegotiated to meet changing conditions, at the interest of both parties.

Although PPP contracts should be flexible, in order to avoid lengthy re-negotiation and opportunistic behaviour they should specify the events that may justify a revision of contractual clauses. Answers to the questionnaire show that in 11 (out of 16) countries it is possible to review PPP contracts before the established deadline for renegotiation or before the end of the contract, with only 8 countries reporting that contracts contain clauses specifying the conditions under which they can be reviewed. Given that the government is in fact the provider of last resort and contractors are aware that public authorities cannot afford an extended period of service disruption (which could also occur as the result of re-tendering a PPP contract), contracts should contain clauses related to risks. Responses to the questionnaire revealed that there is considerable diversity in

25 See Farrugia et al. (2008) for a comparison of organisational structures and other characteristics of PPP units worldwide.

26. See <http://www.eib.org/products/events/eppec.htm>.

27. See Article 29 of Directive 2004/18/EC.

how risk sharing is implemented in the contracts. For example, most countries responding to the questions on PPPs noted that they imposed limits on the debt the private contractor could incur; fewer countries (9) reported that PPP contracts contain revenue sharing clauses and only seven countries reported that the contracts specify minimum revenues from sales.

3.3.3. Ensuring investment and quality in infrastructure

The long term nature of PPPs' contracts, coupled with the fact that the client is the government²⁸, generates uncertainty about future events, including the possibility of expropriation, which in turn will lead the private contractor to hold up his investment decisions²⁹. Moreover, as the end of the contract is approaching, the contractor will be even less willing to invest, fearing that he will not be able to enjoy the benefits brought by the investment. Underinvestment problems need to be mitigated through appropriate institutional design and contract structure that create incentives for the private partner to invest.

Overall investment incentives. In order to guarantee sufficient investment levels throughout the life cycle of the asset, the risk of contract cancellation needs to be low. The existence of mechanisms that formalise contract renegotiation may help enhancing investment incentives, by creating a stable institutional environment to avoid problems of possible opportunism and uncertainty. More importantly, the public sector needs to be viewed as reliable partner, which calls for the existence of a political consensus towards honouring PPP contracts independently of the electoral cycle.

Another mean to bolster investment incentives is to extend the contract for a long period, allowing the private contractor to recover the cost of the investment made.

On average, PPP contracts are set for an average of 30 years, although there are differences across sectors and countries. In the energy sector, PPP contracts span from 10 (Italy) to 30 years (United Kingdom), while airport PPPs range from 13 (Turkey) to 50 years (Spain)³⁰. Port PPPs are granted for a minimum of 30 years (Spain) to a maximum of 50 years (Korea). The most long lived PPPs are found in the railway sector (90 years, in the UK) and in the roads sector, where a significant number of countries signed contracts of over 50 years (Canada, France, Spain, the UK and the USA), with some contracts almost reaching 100 years³¹. The hold-up problem when the contract is near the end is likely to be severe in the water industry, given the very long asset life and the highly specific nature of the investment. Paradoxically, concession lengths are comparatively short in this sector, according to answers given to the Questionnaire, averaging 18 years, although there is a certain degree of discrepancy between countries, with contracts lasting between 10 (Australia) and 30 years (Italy, Netherlands and Portugal). However, the policy objective of encouraging investment by stipulating long term contracts needs to be weighed against the caveats of such long term contracts, specifically the potential adverse effects of lack of competition and of increased uncertainty about future contingencies that can negatively affect contract performance.

Unrealistic demand forecasts have been a feature of some PPPs, particularly in the road sector. With the intention of minimising demand risk for the private operator, some contracts include no-compete or exclusivity clauses³².

The questionnaire responses reveal that 8 out of 20 countries permit no-compete clauses in their concession contracts. Geographical exclusivity rights are granted in eighteen of the respondent countries, being more pervasive in the electricity (transmission and distribution) and water sectors.

28. Even if the project is paid through user charges, the government remains the private sector's legal partner.

29. The hold-up problems that lead to under-investment are common both to PPPs and concessions.

30. Responses to the Questionnaire reveal also long concession periods in air transport infrastructure in Hungary (75 years) and Mexico (50 years).

31. Source: Dealogic database.

32. However, when demand growth is significant this type of contract structure can limit the ability to counteract congestion as has been reported for some US highways.

Of course, granting such conditions can conflict with other policy objectives and have undesired negative consequences, such as low productivity and service quality. In this light, the extent to which no-compete and exclusivity conditions are offered needs to be carefully tailored to investment requirements.

Asset ownership reduces the hold-up problem and constitutes an incentive for investment in quality, especially if the contract does not include a clause granting preferential treatment to the government³³. The advantages of private ownership are likely to be greater for generic facilities like hospitals and schools, for which design/construction is very specific.

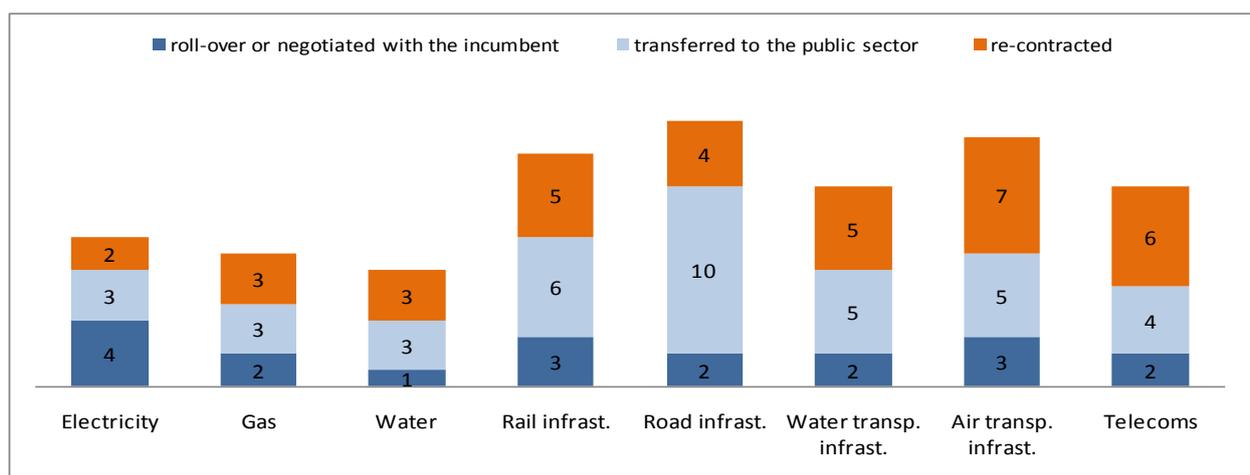
One of the usual features of a PPP is that at end of the contract assets revert to the government. In this case, to ensure that the contractor keeps investing, the contract should contain rules to guide the definition of the asset residual value. Only ten countries reported that contracts typically contain such clauses. In the case of franchises, the questionnaire responses revealed that rolling over concession contracts in favour of incumbents is less common than transferring assets to the state or re-contracting (Figure 4). To guarantee investment, the contractor should be compensated for the residual value of the assets, but only one third of the countries where the asset is transferred back to the state compensate the franchise holder.

Another approach to mitigate this problem is to bias renewal in favour of the incumbent. Only the Slovak Republic responded that the incumbent is treated as a preferred bidder³⁴. An alternative approach is to require the reinvestment of profits, a clause which is only included contracts in Belgium and Mexico (and only in the water sector in the latter), out of 17 respondent countries.

Pricing policies: Pricing policies should compensate the private operator for investments throughout the concession period, without creating incentives for over-investment. Almost all countries (except Japan and Sweden) reported that pricing policies reflect investment needs, particularly in the electricity and gas sectors. To avoid overinvestment, after a cost-reducing investment, prices should only be modified at the next round of contract revision and should not fully compensate the operator. In most countries the timing of compensation is sector specific (though Norway adjusts prices at the time of the cost-saving investment). Price adjustments at the next round occur particularly in the electricity, gas and railroad sectors. The evidence is mixed with respect to the amount of the compensation, though some countries appear to have a policy of full compensation (Norway, Portugal).

To mitigate the problem of under investment when the contract is approaching the end, contracts

Figure 4. **Outcomes at the end of a franchise**



Note: The numbers in the bars gives the number of countries reporting each response. The differences reflect that fewer countries reported franchises in some sectors and also that multiple outcomes were possible, particularly in the transport sector.

33. By helping to mitigate under-investment, private ownership constitutes an attractive feature of PPP contracts, relative to concessions and franchises.

34. There may be other ways that the incumbent may benefit, however. Klein (1998) notes that a discount rule used in the French water industry typically meant that the concession was re-awarded to the incumbent.

should entail increasing incentives over time to foster renewal of investment. With this aim, fixed-price agreements should be in place close to the end of the contract.

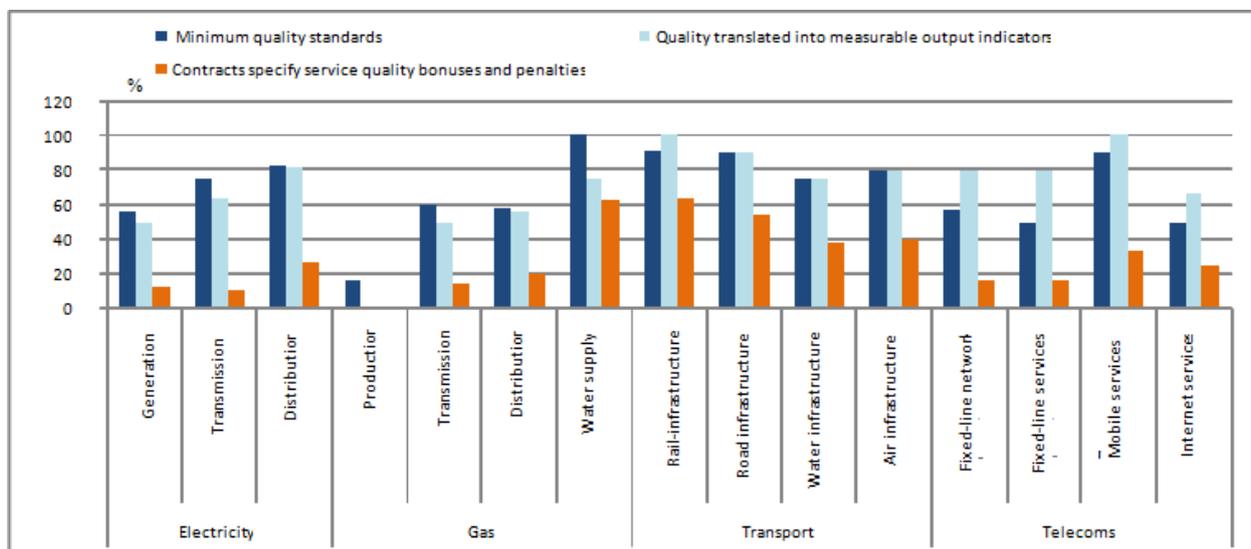
Quality. If the quality of the services can be contracted, i.e. specified in the contract and verifiable in the court of law, the government is able to enforce the level of quality it so wishes and reflect it in the payments to the contractor and/or in user charges. The public sector should then specify clearly the quality sought for the services to be delivered by the private sector and translate these into measurable output indicators. Contract clauses should also establish a clear link between service payments and the quality of service delivery. If such provisions are not included, the government incurs in fiscal risk by raising the possibility of contract renegotiation

In cases where quality cannot be contracted but is observable ex-post, the government can use subsequent procurement projects to punish low quality providers.

Investments in quality throughout the life of the contract can be encouraged if the contract allows the facility operator to increase price after an investment in quality (by granting “access holidays”).

In the light of hold-up problems, the regulator may need to determine and monitor investment. This is obviously easier for some types of investment and industries than others. The regulator can set quality standards, use performance indicators, rely on benchmark competition and specify bonuses and penalties in the franchise or concession contracts to enhance the incentives for the franchise holder to invest and maintain assets. From the questionnaire responses it is quite common for the contractor to establish quality standards and to translate these into measurable output indicators (Figure 5). The use of benchmarking to promote competitive outcomes and the use of bonuses and penalties to give franchise holders higher powered incentives to care about quality is less common, though generally more prevalent in the transport sector.

Figure 5. Use of regulatory tools to maintain quality

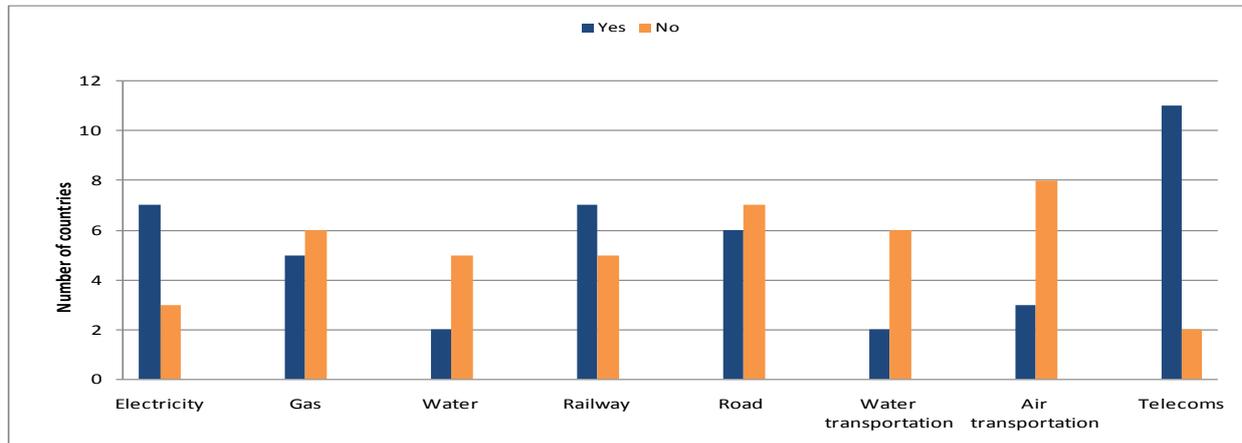


Note: The percentages reported are the number of countries reporting the given regulatory tool as a percentage of the countries reporting having franchises in the given sector.

An alternative or additional mean to ensure that the contract holder at least maintains infrastructure quality is to allow a greater say to users on investment. In some sectors, such as telecommunications, rail and electricity,

established arbitration procedures to settle disputes between operating and using companies over investment and maintenance of the network are relatively more prevalent (Figure 6).

Figure 6. Arbitration procedures between the network operator and network users



4. Conclusion

PPPs constitute a specific type of agreement between a public entity and the private sector for the provision, operation and management of a public service. The evidence does not necessarily question the merit of PPP arrangements, but rather calls for a sound analysis of their suitability to particular infrastructure projects and careful contract design so that the benefits of private sector participation are reaped. This paper highlights the issues that the public sector needs to consider to ensure that value for money in infrastructure delivery and quality in service provision is indeed achieved through PPPs.

PPPs are best suited when there is a positive externality between the construction and the operating phase, which gives incentives for the private sector to internalise the costs of service provision and asset maintenance in its decisions at the construction phase. To allow the private sector to explore innovative solutions, the contract should lean towards output specification rather than input requirements. In the absence of this positive externality, the government should grant the private sector the ownership of the asset. In this case, PPPs are more suitable for

generic facilities, such as leisure centres and public housing, as the number of buyers is potentially higher, allowing the private sector to enjoy a higher bargaining position relative to a situation where the public sector is the sole buyer.

PPP contracts should be of a sufficient length so that the private sector can enjoy the returns of the investment. Lengthier contracts generate uncertainty and hamper the task of specifying all the contingencies that may justify its revision. Also, renegotiating a PPP agreement entails significant costs. Against this background, PPPs are less suitable in sectors where supply or demand conditions can change quickly, as is the case of prisons, school and health sector facilities, or IT projects. They are more fitting for water and transportation sectors. Also, given that PPP contracts entail high transaction costs, they are more suitable for large infrastructure projects. Alternately, bundling of smaller similar projects should be allowed.

To ensure that PPPs are the appropriate investment vehicle, a rigorous ex-ante evaluation of the advantages of PPPs for public service provision is needed. The net benefit of the project should

be calculated using a whole-life cycle approach. Furthermore, a proper assessment of its implications for the public budget needs to be undertaken. In case the private partner runs into financial difficulties or asks for contract renegotiation, the public sector is found in a weaker position as it will attempt to avoid service disruption. Indeed, the public sector is the party in the contract who in practice bears the risk, being the provider of last resort. To mitigate this problem and avoid running into unplanned debt, the government should perform a careful assessment of the risk sharing rules and include in its accounts the possible fiscal impact of PPPs. As a general rule, the private sector should not bear the risks that it cannot affect through its actions. The task of appropriately specifying risk allocation is of crucial importance, also because the appropriate means to finance the investment depend on the risk allocation between parts and the ability of the private sector to affect demand levels.

The government should avoid costly renegotiations by obtaining all planning permissions, local authorities and environment approvals before calls for tender are made. Additionally, the contract should include all the possible contingencies that may justify a revision of the contract clauses. By proceeding in this way, the government is minimising the possibility of potential opportunistic behaviour of the private sector.

It is crucial to ensure adequate investment levels throughout the length of contract in order to achieve good quality of service provision. This issue deserves careful attention, as there are many factors that can hinder investment levels. Firstly, a sound institutional environment is needed, as the private sector will not invest if the risk of political attitudes changing along the electoral cycle is high. Moreover, the government needs to build a reputation of honouring contracts and avoid situations of regulatory opportunism. Secondly, the government can grant the private sector the ownership of the asset and specify in the contract the criteria that will define its residual value, in case it reverts to the government at the end of the contract. Moreover, the government can switch to a fixed price rule as the contract approaches the end, to mitigate investment holdups at this stage. Other possible solutions include the obligation to re-invest profits, rolling-over the contract to the incumbent or favouring him in the next round of the concession award. However, in this case, the negative effects on competition need to be carefully thought.

The analysis of OECD countries' experiences in PPPs and concessions management reveals that there is a wide discrepancy of practices across the different policy areas, suggesting that there is scope for improving PPP performance and gain expertise by considering other countries' experiences.

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Annex 1.

Significant cross-country differences in PPP frameworks

	CZE	AUT	IRL	PRT	BEL	CAN	KOR	MEX	DEU	FRA	ITA	HUN	AUS	USA	JPN	ESP	NOR	TUR	SVK	
CZE	.	(+)*	.	.	(+)**	.	.	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
AUT	(-)*	(+)*	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
IRL	(+)*	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
PRT	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
BEL	(-)**	(+)*
CAN
KOR	.	.	.	(-)*	.	.	.	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
MEX	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**	(+)**
DEU	(-)**	(-)*	(-)**	(-)**	(-)**	(-)**	(-)**	.	(+)*	(+)*
FRA	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)*	(+)*
ITA	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)*	(-)*
HUN	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)*	(-)*
AUS	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)*	(-)*
USA	(-)**	(-)*	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)*	(-)*	(-)*
JPN	(-)**	(-)*	(-)**	(-)*	(-)**	(-)**	(-)**	(-)**	(-)*	(-)*	(-)*
ESP	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**
NOR	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**
TUR	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**
SVK	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**	(-)**

Note: Stars denote the level of significance: *, 90%, **, 95%, ***, 99%

The table contains the results from cross-country dummy model estimations. The cross country differences in PPP frameworks are assessed by regressing each of the 13 low level indicators on a set of country (C) and policy (P) dummies: $lowlevel_{ij} = \alpha_i C_i + \beta_j P_j + \epsilon_{ij}$, where i and j stand for country and low-level policy indexes, respectively. The left hand side variable is the value of each low level indicator in a given country. The estimated country coefficients, α , reflect the country specific level of efficiency enhancing PPP frameworks and can be used to test whether country A's framework is more conducive to higher PPP performance than country B's. The table highlights the country-pairs with significantly different PPP frameworks (countries are ordered by their scoring in the PPP indicator).

Source: Questionnaire on Infrastructure Investment.

Annex 2.
Coding of answers

ECO/WKP(2010)59

Country	Indicator Value	Decision-Making F.	Independent Consulting	Ex-ante Evaluation	Ex-post Evaluation	Fiscal Implications	Minimising PPP Costs	Prevent Delays and Overruns	Minimise and Transaction Costs	Ensuring VFM Specifications	Output	Min. Revenue	Revenue Share	Debt Limits	Arbitration	Review Clauses	Asset Price
AUS	3.5	1.5	0.0	0.0	6.0	0.0	6.0	6.0	6.0	3.0	0.0	6.0	6.0	0.0	0.0	3.0	6.0
AUT	1.4	1.5	0.0	0.0	0.0	6.0	0.0	0.0	0.0	2.6	3.0	6.0	0.0	0.0	0.0	3.0	6.0
BEL	1.8	2.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	6.0	6.0	0.0	6.0	0.0	0.0	6.0
CAN	1.9	0.0	0.0	0.0	0.0	0.0	4.0	4.0	6.0	1.7	0.0	6.0	6.0	0.0	0.0	0.0	0.0
CHE	1.1	0.0	0.0	0.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0	6.0	0.0
CZE	2.3	3.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0
DEU	2.3	3.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	3.9	3.0	6.0	6.0	0.0	0.0	0.0	6.0
DNK																	
ESP	4.1	4.5	6.0	0.0	6.0	6.0	4.0	2.0	6.0	3.9	0.0	6.0	6.0	6.0	6.0	3.0	0.0
FRA	2.3	1.5	0.0	0.0	6.0	0.0	4.0	2.0	6.0	1.5	3.0	0.0	6.0	0.0	0.0	0.0	0.0
HUN	3.0	3.0	3.0	0.0	6.0	0.0	3.0	0.0	6.0	3.0	3.0	6.0	6.0	0.0	0.0	6.0	0.0
IRL	1.8	4.5	6.0	0.0	6.0	6.0	0.0	0.0	0.0	0.9	3.0	0.0	0.0	0.0	0.0	3.0	0.0
ITA	2.8	3.0	6.0	0.0	6.0	0.0	4.5	3.0	6.0	0.9	3.0	0.0	0.0	0.0	0.0	3.0	0.0
JPN	3.8	1.5	0.0	0.0	6.0	0.0	6.0	0.0	6.0	4.0	0.0	6.0	6.0	0.0	6.0	0.0	6.0
KOR	2.2	3.0	3.0	0.0	6.0	0.0	3.0	0.0	6.0	0.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
LUX																	
MEX	2.3	1.5	0.0	0.0	6.0	0.0	4.5	3.0	6.0	0.9	3.0	0.0	0.0	0.0	0.0	3.0	0.0
NLD																	
NOR	4.3	6.0	6.0	6.0	6.0	6.0	3.0	0.0	6.0	3.9	3.0	6.0	6.0	0.0	6.0	0.0	6.0
PRT	1.8	1.5	3.0	0.0	0.0	0.0	3.0	3.0	3.0	0.9	3.0	0.0	0.0	0.0	0.0	3.0	0.0
SVK	4.5	4.5	6.0	0.0	6.0	6.0	3.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	6.0	6.0
TUR	4.4	4.5	6.0	6.0	6.0	0.0	6.0	6.0	6.0	2.6	3.0	6.0	0.0	0.0	0.0	3.0	6.0
USA	3.6	1.5	3.0	0.0	6.0	0.0	6.0	6.0	6.0	3.4	3.0	6.0	6.0	0.0	0.0	3.0	6.0

Source: Questionnaire on Infrastructure Investment.

Instruments and Conditions for Efficient Monetary Policy Making in Support of Economic Growth: Case of African Economies

By Mr Alphious Ncube, MEFMI Director - Financial Sector Management Programme

Ms Jackie Kitiibwa, MEFMI Programme Officer - Financial Sector Management Programme

Mr Jean-Baptiste Huvugimana, Programme Officer - Macroeconomic Management Programme

Abstract

This paper will assist the reader to understand the conditions under which monetary policy affects economic growth, by focusing separately on central bank policy actions and the transmission mechanisms through which those actions work their effects. Findings from a number of studies on the topic indicate that the choice of instruments and transmission mechanisms and their effectiveness in the conduct of monetary policy depend on the specific features of the economy in question as well as on the depth and structure of its financial system. However, every country being different; each transmission channel varies in importance at a given point in time. Also, in our increasingly connected globalising world, nothing happens in isolation any more. Events in one country and region can have a significant effect on growth prospects in another.

1. Introduction

It is now widely agreed that monetary policy can contribute to sustainable growth by maintaining price stability. There have been numerous research studies on the contribution of economic policies to economic growth. Amongst the major policies, monetary policy is the most researched topic in the modern economic era because it has - through inflation - very serious implications for growth and income distribution.

While framing monetary policies, the fundamental objective of central banks all over the world is to attain a set of objectives oriented towards the growth and stability of the economy. The objectives of monetary policy may vary from country to country but there are two main views. The first view calls for monetary policy to achieve price stability, while the second view seeks to achieve price stability and other macroeconomic objectives. The macroeconomic objectives include high employment, economic growth, stability of financial markets and institutions, and balance of payments equilibrium. The priority of price stability over other policy goals tends to be

politically accepted in most countries, if not enshrined in the laws governing the central bank.

The central banks in Africa, like other central banks in developing countries, achieve the monetary policy goal through the amount of money supplied in the economy. By using monetary policy tools, the central banks ensure that money supply is controlled in a manner such that the aim of sustainable economy (*sustainable economy = maximum employment + stable prices + growth*) is achieved.

Monetary policy uses a variety of instruments to control the supply of money principal among them, the availability and cost of money or interest rate, to influence outcomes like economic growth, inflation, exchange rates and unemployment rates.

Changes in monetary policy are triggered by domestic and external shocks that can hinder the attainment of the above policy outcomes. Central banks implement policy changes by resetting their policy instruments, usually short-term interest rate or a monetary or bank credit aggregate. These instruments affect the economy through various mechanisms of transmission to the ultimate policy goals; Hence a useful way to understand the conditions under which monetary policy affects economic growth is to focus separately on central bank policy actions and the transmission mechanisms through which those actions work their effects.

This paper does not attempt to address recent developments in monetary policy implementation such as quantitative easing or credit easing; that have since been adopted by some major central banks to achieve financial stability. Rather, it analyses the dynamic interaction of conventional monetary policy tools, transmission mechanisms and conditions in stimulating economic growth. During and before the global financial crisis, the focus of monetary policy has shifted to include market systemic issues, which were outside the purview of monetary policy before. Section 2 reviews literature on the interaction of monetary

policy instruments with economic growth, making distinction between the separate effects of the different transmission channels. Section 3 examines how and to what extent monetary policy has influenced growth in the world in general and African economies in particular over the recent years. Conditions and strategies for efficient monetary policy to foster growth in Africa are discussed in Section 4. Section 5 provides a conclusion to this paper.

2. Overview of the Interaction of Monetary Policy Instruments with Economic Growth

2.1. Monetary Policy Instruments

For many countries, the objectives of monetary policy are explicitly stated in the laws establishing the central bank, while for others they are not (IMF, 2006). For most economists, monetary policy focuses on the relationship between the interest rate in an economy, and the total supply of money. Although central banks cannot use monetary policy instruments directly to affect intermediate targets, they can use them to affect operating targets, such as reserve money and short-term interest rates, which influence the intermediate targets. Monetary instruments that affect operating targets are generally classified as either direct or indirect. Direct instruments function according to regulations (granted to or designed by the central bank) that directly affect either the interest rate or the volume of credit.

Examples are administratively set interest rate ceilings, individual bank credit ceilings, and directed lending. Direct instruments become increasingly ineffective and irrelevant as money and financial markets develop and modernise. They also create distortions, including financial repression, and promote financial disintermediation, and fiscal dominance.

The use of indirect instruments also called “market-based instruments,” affects the market determined price of bank reserves as the central bank engages in transactions with both financial and nonfinancial institutions.

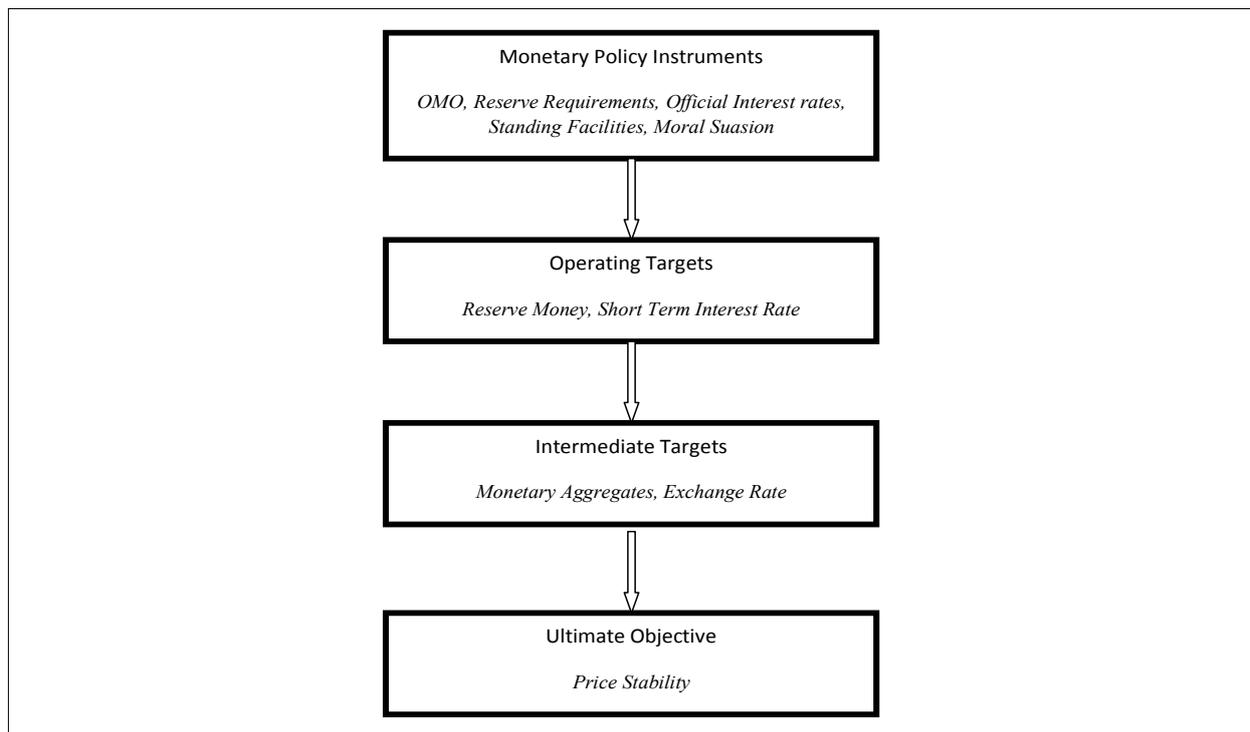
There are three main types of indirect instruments that are used by the central bank to inject and absorb liquidity: open-market operations, central bank lending policies, and reserve requirements.

Other indirect instruments include central bank auctions of treasury bills or central bank obligations, and central bank auctions of central bank credit. The first is similar in some respects to open market operations, and the second is similar to central bank lending.

Open market operations and central bank lending operate by affecting the level of reserve money, whereas reserve requirements are set and changed according to regulation and thus contain an element of direct control. However, since the effect of changes in reserve requirements is a function of the demand for reserve money, they can be classified as an indirect policy instrument. Changes in reserve requirements generally will not alter the aggregate level of reserve money, but since they affect the money multiplier, they will have an influence on the overall stock of money.

Figure 1 below shows the schematic framework for the conduct and implementation of monetary policy using the available monetary instruments.

Figure 1: The tactical and strategic aspects of monetary policy



Source: Bank for International Settlements (BIS) Papers No.39

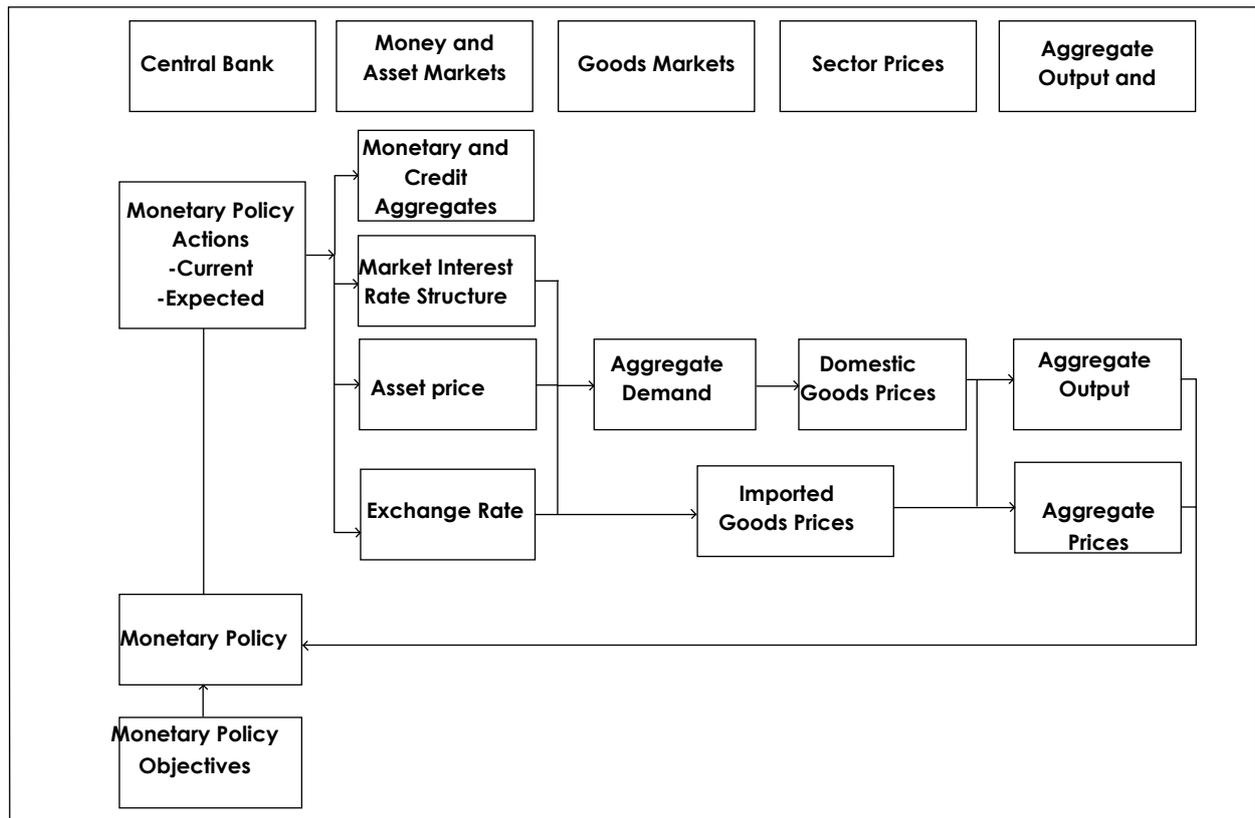
2.2. Transmission Mechanisms of Monetary Policy

The process through which monetary policy decisions impact an economy in general and the price level in particular is known as the monetary policy transmission mechanism. The individual links through which monetary policy impulses proceed are known as transmission channels. The main channels of monetary policy transmission are set out in a simplified, schematic form in **Figure 2** below. The transmission mechanisms of monetary policy work through various speeds and intensities. Identifying these transmission channels is important because they determine the most effective set of policy instruments, the timing of policy changes, and hence the main restrictions that central banks face in making their decisions. They are the only ones which assist the central bank in capturing the direction and magnitude of the effects of its actions on macroeconomic variables.

Literature identifies five channels of monetary policy transmission mechanism. John Taylor (1995) carried out an in-depth analysis of these channels in various countries, allowing a comparison of their relative importance for economies that differ significantly in their structure.

Figure 2 depicts the relationship between monetary policy rules and transmission mechanisms. Policy actions taken on the basis of the central bank policy rules are directly transmitted to money and assets markets. Changes in these markets in turn affect the goods and labour markets. Finally, changes in current and projected output and inflation feed back into monetary policy rules. This reflects the central bank's aim and strategy to attain its policy. The monetary transmission mechanisms portrayed in the chart above depend on several links all of which are supported by various strands of the macroeconomic literature.

Figure 2. Monetary Policy Actions and Transmission Mechanisms (a)



(a) Constructed for the first time by Norman Loayza, World Bank and Klaus Schmidt-Hebbel, Central Bank of Chile, 2002.

2.2.1. Interest Rate Channel

Taylor (1995) regards the interest rate channel as the main channel of monetary policy transmission. However this is strongly disputed by Bernanke and Gertler (1995). How this transmission channel works can be explained using a hypothetical situation in which an economy is doing well and it is growing fast. When an economy grows too fast, it can lead to inflation. High inflation is not healthy for any economy, so the central bank will try to curb it by using monetary tools. Thus, if inflation is an imminent danger, the central bank will hike interest rates so that there is a decrease in money supply. If less money is available in the market, people will consume less and demand will decrease. A decrease in demand will lead to a decrease in supply and general pricing of the products, respectively. By doing this, the central bank hopes to bring back the economy to a stable level.

On the other hand, if an economy is in a slump and the central bank wants to promote higher employment and higher growth, it will reduce interest rates leading to more money supply into the market. When interest rates are decreased, banks can give loans to economic actors at a lower rate. Households and businesses borrow more money thereby boosting their spending and investment capacity. In a low-interest scenario, any type of investment becomes more attractive. Similarly, with low-interest rates, the value of currency decreases and imports become more expensive while the demand in domestic market increases. Therefore, the overall sentiment in the domestic market becomes positive, and to meet increased demand, companies invest more, and job opportunities can be created.

It is worth mentioning that interest rates also affect the currency exchange value. Suppose the interest rates are increased by the banks in a

certain country, then the yields (profits) of assets in the currency of that country will be more promising, which will encourage investors in foreign markets to bid higher for these domestic financial assets. This will increase the value of the country's currency which will lead to lower cost of imports for the domestic country's inhabitants. However, for the people outside that country, prices of the goods exported will increase.

2.2.2. The Asset Price Channel

Monetary policy can also have important effects on the prices of equity, bonds, and real estate. According to the theory of asset price channel, an expansionary monetary policy leads to higher equity prices which make investment more attractive (through Tobin's q) thus raising aggregate demand. Higher equity prices also entail increased wealth, which raises consumption and thus also raises aggregate demand (Meltzer, 1995). Monetary policy impulses are also transmitted through the price of assets such as stocks and real estate. Fluctuations in the stock or real estate markets that are influenced by monetary policy impulses impact on the aggregate economy. The expansionary monetary policy effects of lower interest rates make bonds less attractive than stocks and result in increased demand for stocks, which bids up stock prices. Conversely, interest rate reductions make it cheaper to finance housing, causing real estate prices to go up. There are three different types of transmission mechanisms involving asset prices:

(i) Investment effects: Tobin's q theory explains an important mechanism through which movements in stock prices can affect the economy. Tobin's q is defined as the market value of firms' divided by the replacement cost of capital. If q is high, the market price of firms is high relative to the replacement cost of capital, and new plant and equipment capital is cheap relative to the market value of firms. Companies can then issue stock and get a high price for it relative to the cost of the facilities and equipment they have bought. Investment spending will rise because firms can now buy a relatively large amount of new investment goods with only a small issue of stock. An interest rate cut entailing a rise in stock prices will therefore reduce companies' capital costs and consequently boost investment spending.

(ii) Wealth effects: Modigliani's life cycle model states that consumption is determined by the lifetime resources of consumers. These life cycle resources consist primarily of financial assets, mostly stock, and real estate. Interest rate cuts entail a rise in stock and real estate prices and accordingly boost household wealth. At the same time, consumers' life cycle resources expand, in turn lifting consumer spending and aggregate demand.

(iii) Balance sheet effects: A rise in stock and real estate prices improves corporate and household balance sheets alike. Higher net worth translates into higher collateral for lending to companies and households. This in turn increases lending, investment spending and hence higher aggregate spending.

2.2.3. The Exchange Rate Channel

This channel effects reflect on both the demand and supply sides of the economy. On the demand side, a monetary expansion lowers the domestic real interest rate, which, through the foreign interest parity condition, brings about a real depreciation of the domestic currency. This in turn leads to higher net exports and stronger aggregate demand (Obstfeld and Rogoff, 1995). On the supply side, the real depreciation that results from monetary expansion raises the domestic prices of imported goods, raising inflation directly. Moreover, the higher price of imported inputs contracts aggregate supply, reducing output and increasing inflation.

Another explanation of this channel is that expansionary monetary policy affects exchange rates because deposits denominated in domestic currency become less attractive than deposits denominated in foreign currencies when interest rates are cut. As a consequence, the value of deposits denominated in domestic currency declines relative to that of foreign currency-denominated deposits and the currency depreciates. This depreciation makes domestic goods cheaper than imported goods, causing demand for domestic goods to expand and aggregate output to augment. This channel does not operate if a country has a fixed exchange rate; conversely, the more open an economy is, the stronger this channel is. Exchange rate

fluctuations may also influence aggregate demand by affecting the balance sheets of banks and companies whose balance sheets include a large share of foreign currency-denominated debt. If balance sheets deteriorate, the risk that some borrowers cannot pay back their loans in due course may increase so much that banks will not grant loans to these borrowers¹. As a result, borrowers would be forced to cut back on planned expenditure.

2.2.4. The Credit Channel

It focuses on monetary and credit aggregates. Its basic notion is that monetary policy can have price and output effects through the credit rationing that arises from information asymmetries between financial institutions and the firms and consumers to whom they lend. This occurs because monetary policy affects the extent of the adverse selection and moral hazard that constrain credit provision. It is argued that a monetary policy expansion alleviates adverse selection and moral hazard by increasing firms' net worth through higher equity prices, reduced perceived loan risks through lower real interest rates, improving cash flow through lower nominal interest rates, and decreasing the burden of nominal debt contracts by raising inflation. All these considerations tend to make banks more willing to supply more credit in a situation of expansionary monetary policy thus financing a rise in aggregate demand (Li, 2000 and Stein, 2000).

The credit channel in effect breaks down into two different channels: bank lending channel or the narrow credit channel and balance sheet channel or the broad credit channel. Under the lending channel, central banks' monetary policy decisions influence commercial banks' refinancing costs; banks are inclined to pass the charges on to their customers. If financing costs diminish, investment and consumer spending rise, contributing to an acceleration of growth and inflation. However, following an increase in interest rates, the risk that some borrowers cannot pay back their loans in due course may increase so much that banks will not grant loans to these borrowers.

As a result, borrowers would be forced to cut back on planned expenditure.

The balance sheet channel: Monetary policy may have a direct impact on corporate policy, because companies may borrow to improve return on equity as long as the return on debt is lower than the return on assets. Hence, the return on asset is a weighted arithmetic mean of the return on equity and the lending rate, which are respectively weighted by the share of equity and debt in total assets. Consequently, lower interest rates improve the return on equity. For this reason, no profitable enterprises may show a positive return on equity. However, this may reinforce the influence of interest rates on investment behaviour, which is referred to as the financial accelerator effect.

2.2.5. Expectations Channel

The literature identifies a separate, fifth channel, based on private sector expectations about the future stance of monetary policy and, more generally, about all future related variables. According to this channel, all variables that have inter-temporal implications, and are therefore determined in a forward-looking way, are affected by agents' beliefs about the future shocks to the economy and how the central bank will react to them. The specific mechanisms for the expectations channel are inter-temporal versions of the static interest rate, asset price, exchange rate, and monetary credit mechanisms.

2.3 Effectiveness of Monetary Policy through the Various Transmission Channels

Not all economies react in the same way to changes in monetary policy. The choice of transmission mechanisms and their effectiveness in the conduct of monetary policy depend on the specific features of the economy in question.

The depth and structure of the financial system determine which transmission mechanisms are the most relevant and thus affect the effectiveness of monetary policy.

1. Khan, Mohsin S., and Abdelhak S. Senhadji. 2003. Financial Development and Economic Growth: A Review and New Evidence. *Journal of African Economics* 12 (September): 89–110. *Monetary Fund Staff Papers*, vol. 47. IMF Annual Research Conference Issue: 62–98.

2.3.1. Monetary policy effectiveness greatly depends on the stage of development of the economy, its depth and the stability of the financial markets. Monetary policy changes are more quickly and closely translated into changes in market interest rates and other financial prices if the financial system is well diversified in terms of its institutions and products. Conversely, when a few financial institutions have effective monopoly and the supply of financial alternatives is poor, these institutions can to some extent determine market rates and prices independent of the actions of the central bank. Efficiency of the payments and settlement systems, the level and quality of data and the communication facilities in place also influence the effectiveness of monetary policy.

2.3.2. Consumption and investment decisions by households and firms are more responsive to market rates and prices when those households and firms are not financially constrained but can exercise their choices both inter-temporally and across goods and services. The credit channel instead dominates, given the moral hazard and adverse selection problems that characterise shallow financial systems. The exchange rate channel is usually not very relevant in financially underdeveloped economies, because such economies tend to impose controls on foreign exchange transactions, whether related to international trade or capital flows. The size of an economy and its openness to external transactions also determines the importance of the exchange rate channel and the ability of monetary policy to determine domestic interest rates. As the financial sector develops and becomes deeper and more diversified, however, the asset price, interest rate, and exchange rate channels become more important.

2.3.3. The effectiveness of monetary policy is greatly undermined by political interference, fiscal dominance and poor legal environments. It is therefore imperative that monetary authorities operate in an environment with appropriate legal frameworks, conducive political climate and institutional structures that allow for autonomy. Furthermore, fiscal and monetary policies should be complementary and should ensure consistency with the overall goal for an economy.

2.4. Effectiveness of Monetary Policy through the Various Monetary Regimes

Most central banks conduct monetary policy within some sort of monetary policy regime. Such a regime provides a structure for monetary policy decision-making. In addition to facilitating the decision making, this structure enables the decisions to be communicated more easily to the public. The basic monetary regimes are:

- (i) A regime with an implicit nominal anchor,
- (ii) Money targeting,
- (iii) Exchange rate targeting and
- (iv) Inflation targeting.

(i) Regime with an Implicit Nominal Anchor

A regime with an implicit nominal anchor involves targeting a particular nominal variable adopted only internally within the central bank without it being announced explicitly to the public. A pre-requisite for successful functioning of this regime is high credibility of the central bank, which enables the desired changes in inflation or inflation expectations to be achieved without explicit targets.

(ii) Monetary Targeting Regime

The monetary targeting regime focuses on the growth rate of a chosen monetary aggregate. It is based on the finding that in the long term, price growth is affected by money supply growth. A problem, however, lies in the choice of an appropriate monetary aggregate to target. In an environment of financial innovation, market computerisation and globalisation, the relationship between monetary aggregates and the price level is becoming ever weaker. The central bank may also fail to manage the selected monetary aggregate with sufficient precision. Most African countries are under this regime².

(iii) Exchange Rate Targeting

Under the exchange rate targeting regime, the central bank tries to ensure nominal exchange rate stability vis-à-vis the currency of a so-called anchor country via interest rate changes and direct foreign exchange interventions, thereby “importing” price stability from the country.

Maintaining the exchange rate requires an appropriate economic policy mix ensuring a low inflation differential vis-à-vis the anchor country, a sufficient level of international reserves, and maintaining the country's competitiveness and overall credibility, including its institutional and legislative framework and political stability. One of the major disadvantages of the regime is the loss of monetary policy autonomy.

(iv) Inflation Targeting

Under inflation targeting, the central bank publicly pre-announces an inflation target or a succession of targets that it is determined to achieve. This involves active and direct shaping of inflation expectations. This regime's decision making scheme involves the use of a lot of information than merely the exchange rate or monetary aggregates, covering the labour market, import prices, producer prices, the output gap, nominal and real interest rates, the nominal and real exchange rate, public budgets, etc.

Empirical findings have shown that introducing such policies in order to promote rapid economic growth may disturb macroeconomic stability (after having achieved it at a substantial cost) without any significant economic benefits.

3. Overview of the linkages between monetary Policy and Economic growth in Africa and the world

3.1. Analysis of Monetary Policy Frameworks in Selected African countries

There have been several significant changes since the 1990s in the design and conduct of monetary policy around the world, including in developing countries. Two main examples of these changes are;

(i) The movement by a number of countries, many in Africa, from fixed exchange rate regimes to more flexibility, which has allowed for greater monetary independence.

(ii) The adoption of inflation targeting regimes as a framework for conducting monetary policy in several industrial economies, as well as in about 19 emerging economies and developing countries to date (including 3 African countries).

The new guidelines resulting from these changes have triggered considerable debate on how monetary policy should be conducted; a debate that as yet is not fully settled. Table 1 below shows monetary policy frameworks in Sub-Saharan African (SSA) countries.

Table 1: Monetary Policy Frameworks in SSA countries

Type of Framework	Number of Countries
Exchange rate Pegs ³	23
Inflation Targeting	RSA, Mauritius, Ghana, Uganda(IT light), Kenya(hybrid) (5) Rwanda (soon)
Monetary Targeting ⁴	18

Source: Kasekende et al. (2010)

2. Jose Antonio Cordero (October 2007). Economic Growth under Alternative Monetary Regimes: Inflation Targeting vs. Real Exchange Rate Targeting, Political Economy Research Institute (PRI)-University of Massachusetts Amherst, Number 13.

3. Exchange Rate Targeting countries are :

1. Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal, Togo - BCEAO (Banque Centrale des États de l'Afrique de l'Ouest, i.e. "Central Bank of the West African States"),

2. Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, Gabon- BEAC (Banque des États de l'Afrique Centrale, i.e. "Bank of the Central African States"),

3. Botswana, Lesotho, Swaziland, Namibia,

4. Cape Verde, Eritrea, Comoros, Djibouti, Sao Tome and Principe

4. Monetary Targeting countries are :

Burundi, Malawi, Democratic republic of Congo, Kenya, Zambia, Tanzania, Mozambique, The Gambia, Rwanda, Nigeria, Seychelles, Sierra Leone, Guinea, Mauritius, Madagascar, Angola, Sudan, Mauritania

Many African countries have been using money supply as a nominal anchor under the monetary policy framework but a breakdown in the relationship between money and inflation which leads to challenges in the ability to forecast reserve money has led some countries to abandon the framework.

Tables 2 and 3 below show the inflation and GDP rates for MEFMI countries that have been pursuing monetary inflation. Inflation has been very volatile in these countries as evidenced by a standard deviation of 4% to 7%. Furthermore, the global financial crisis from 2007 to 2009 exacerbated the problem further.

Table 2: Inflation Rates for Monetary Targeting Countries (2005 – 2011)

	Kenya	Malawi	Mozambique	Rwanda	Tanzania	Uganda	Zambia
2005	9.9	16.6	11.1	5.6	4.9	8.6	15.9
2006	6.4	10.1	9.4	12.1	6.7	7.2	8.2
2007	4.3	7.5	10.3	6.5	6.4	6.1	8.9
2008	16.2	9.9	6.2	22.3	13.5	12.0	16.6
2009	10.5	7.5	4.2	5.7	12.2	13.0	9.9
2010	4.5	6.3	16.6	0.2	5.6	4.0	7.9
2011	6.7	7.0	5.5	6.0	19.8	18.7	7.2
Mean	8.4	9.3	9.0	8.3	9.9	9.9	10.7
STD Deviation	4.2	3.5	4.2	7.1	5.5	5.0	3.9

Table 3: Real GDP Growth Rates for Monetary Targeting Countries (2005 – 2011)

	Kenya	Malawi	Mozambique	Rwanda	Tanzania	Uganda	Zambia
2005	5.8	2.5	8.3	9.3	7.4	6.5	5.3
2006	6.4	7.7	8.6	9.2	6.7	3.6	6.2
2007	7.1	5.7	7.2	5.5	7.1	4.4	6.2
2008	1.6	8.6	6.8	11.1	7.8	6.6	5.7
2009	2.6	7.5	6.3	4.1	6.0	0.3	6.4
2010	5.6	6.6	7.0	6.5	7.0	1.9	7.6
2011	4.5	6.1	7.5	6.4	6.5	6.0	6.8
Mean	4.8	6.4	7.4	7.4	6.9	4.2	6.3
STD Deviation	2.0	2.0	0.8	2.5	0.6	2.4	0.8

Exchange rate targeting uses the exchange rate as a nominal anchor and basically comes in two forms; soft and hard pegs. More than half of the countries in SSA anchor their monetary policy on an exchange rate peg. 14 of these countries are members of the West African and the Central African CFA Zone monetary unions.

In the MEFMI region, Botswana is pursuing crawling peg, where the Botswana Pula is pegged to a basket of currencies (Rand, Euro and US Dollar), while Lesotho, Namibia

and Swaziland are using hard pegs to the South African Rand under the Common Monetary Area (CMA). Tables 4 and 5 below show the inflation and GDP growth rates for these countries. The countries have registered single digit levels with the exception of the global financial crisis era. Furthermore, inflation has been less volatile as evidenced by low standard deviation of between 2.6% and 3.6%.

Table 4: Inflation Rate for Exchange Rate Targeting Countries (2005 – 2011)

	Lesotho	Namibia	Swaziland	Botswana
2005	3.5	6.3	6.3	11.2
2006	6.4	5.4	5.4	8.5
2007	10.4	12.6	12.6	8.1
2008	10.6	12.9	12.9	13.7
2009	4.1	4.49	4.49	5.8
2010	3.1	4.5	4.5	7.4
2011	5.6	7.3	7.3	9.2
Mean	6.24	7.64	7.64	9.13
Standard Deviation	3.13	3.63	3.63	2.60

Table 5: Real GDP Growth Rates for Monetary Targeting Countries (2005 -2011)

	Lesotho	Namibia	Swaziland	Botswana
2005	2.4	2.4	2.1	5.6
2006	4.7	7.1	2.9	8.5
2007	4.5	5.3	2.8	-3.6
2008	4.6	4.3	3.1	3.1
2009	3.0	-0.8	1.1	4.8
2010	2.4	4.4	1.9	5.1
2011	3.1	4.8	0.5	1.6
Mean	3.5	3.9	2.1	3.6
Standard Deviation	1.0	2.5	1.0	3.8

The limitation of exchange rate targeting is the loss of independent monetary policy and thus the inability to protect the target countries from shocks transmitted from the anchor country. However, countries with weak political and monetary institutions may find hard pegs more desirable. Under inflation targeting (IT) the anchor is the expected rate of price increase and not the price level by committing to a given level of inflation. Inflation targeting encourages transparency, accountability and communication to the public. Inflation targeting also reduces uncertainty and improves the coordination between monetary and other macroeconomic policies. Central bank independence is important in effectively implementing inflation targeting.

Currently, only three African countries have successfully adopted this regime: South Africa, Ghana and Mauritius. Some review studies made on their frameworks indicate that they are making good progress. The transition process to IT is also underway in a number of other African countries (Uganda, Botswana and Namibia). Kenya is currently employing a hybrid monetary policy framework of both IT and monetary target. Some Regional Economic Communities (RECs) like the East African Community have also made it one of the convergence criteria towards the establishment of a monetary union.

3.2 Empirical research on the link between monetary policy and economic growth

Economists argue that monetary policy can affect real economic growth in the short term but only if the policy change is not anticipated by the public. The efficacy of monetary policy is centred around the ability of policy makers to make an accurate assessment of the timing and the effect of the policy on economic activities and prices. Expectations play a fundamental role in a new monetary policy setup. Prices and wages tend to be sluggish or sticky to adjust and are usually set on the basis of expectations. The causal connection has been linked to imperfect information in the market. If some workers in the economy are unaware of the current prices or if some are aware but are working under contracts that cannot be broken, a monetary expansion will create profit opportunities for some individuals in the short run, encouraging them to work more and expand production (Humpage, 1996). In the long run however, when all individuals and sectors have complete access to information and can adjust their contracts accordingly, an increase in money supply will neither raise output nor employment but only prices.

In the long run, monetary policy contributes to a nation's economic health by eliminating the price uncertainties associated with inflation.

High inflation has an adverse effect on growth due to a number of factors:

- Distortion of relative prices which lowers economic efficiency;
- Redistribution of wealth between debtors and creditors;
- Aversion to long-term contracts; and
- Excessive resources are devoted to hedging inflation risks.

In developing economies, in particular, an additional cost of high inflation emanates from its adverse effects on the poor population. Maintenance of low and stable inflation has thus emerged as a key objective of monetary policy. A noteworthy development during the 1980s and the 1990s was the reduction in inflation across a number of countries, irrespective of their stages of development.

In developed economies, inflation rates have averaged 3% per annum during the 1990s consistent with the establishment of reasonable price stability. In developing and emerging economies too, inflation rates have declined significantly over the same period. However, in terms of magnitude, the developing world is not a homogenous group. Countries in Asia for example appear to be an exception and the inflation rates in these countries have been closer to those of the developed economies. This reduction in inflation is believed to be on account of improvements in the conduct of monetary policy, although there is an on-going debate on this in view of other factors such as globalisation, deregulation, competition and prudent fiscal policies that might have also played a big role.

However, low levels of inflation can also be a source of concern. For instance inflation during the period 2001 to 2003 had fallen to such low levels in various countries following the global slowdown that it raised concerns of a generalised deflation which was avoided thanks to the implementation of aggressive monetary policies by central banks.

The world has thus experienced a significant rise and fall in inflation. At the same time, if we exclude the period 2007 to 2009, corresponding to the last global economic and financial downturn, the past two decades have also seen major changes in monetary policy frameworks. The debate on "rules" versus "discretion" led to a renewed focus on price stability by central banks, and issues such as central bank independence and macroeconomic policy coordination have come to the forefront. A number of banks have adopted explicit inflation targets under an inflation targeting framework (IT) while others are looking at possibilities for implementing alternative monetary frameworks that relate to their current economic context.

Based on the characteristics of sub-Saharan African economies, Mohsin Khan (2010) carried out a cross-country study and found a close correlation between the growth of GDP and the growth of credit. These correlations over the period 1991 to 2007 are reported for 20 sub-Saharan African countries for which data was available in both nominal and real terms⁵.

5. Two specific credit variables were used for the correlations—total domestic credit extended by banks, which includes credit both to the government and the private sector, and credit to the private sector.

Table 6. Correlations between GDP and Credit, 1991–2007

Country	Nominal		Real	
	Domestic Credit	Private Domestic Credit	Domestic Credit	Private Domestic Credit
Burkina Faso	0.4	0.41	0.36	0.41
Cameroon	0.23	0.49	0.43	0.53
Central African Republic	0.45	0.56	0.4	0.39
Chad	0.39	0.55	0.08	0.47
Côte d'Ivoire	0.38	0.06	-0.05	-0.20
Ethiopia	0.42	0.09	0.65	0.33
Gambia	0.53	0.24	0.67	0.24
Ghana	0.26	0.25	0.3	0.09
Kenya	0.51	0.77	0.8	0.68
Madagascar	-0.15	0.42	0.24	0.69
Malawi	0.04	0.18	0.12	-0.23
Mali	0.17	0.23	-0.01	0.25
Mozambique	-0.12	0.46	-0.02	0.19
Niger	0.33	0.19	-0.13	0.51
Nigeria	0.42	0.41	0.19	0.15
Sierra Leone	-0.04	0.81	-0.10	0.8
South Africa	0.47	0.84	0.28	0.69
Tanzania	-0.04	-0.33	-0.03	0.4
Uganda	-0.32	0.74	-0.09	0.78
Zambia	0.61	0.64	-0.38	0.34

Source: Mohsin Khan, Peterson Institute for International Economics, July 2010.

The results in **Table 6** show that when nominal variables are considered (columns 1 and 2), the correlation coefficients between the growth of total domestic credit and the growth of nominal GDP range from a high of 0.61 for Zambia to a low of -0.32 for Uganda. However, when the growth of credit to the private sector is considered, the correlation coefficients go up. This is understandable; since it is credit to the private sector that drives private investment. Credit to the government is essentially for financing the fiscal deficit and may, in fact, be more appropriately termed as fiscal policy. Using the nominal growth of credit to the private sector, the correlation coefficients range between 0.84 for South Africa and -0.33 for Tanzania. The average of the correlation coefficients for the countries in the sample is 0.4, as compared to 0.25 when the growth of total credit was used.

The correlation coefficients between the growth of real total domestic credit and real GDP growth are contained in columns 3 and 4 of **Table 6**. These correlations are smaller than when nominal variables were used; with Kenya the highest (0.8), and Zambia the lowest (-0.38). There are also more instances of negative correlations observed in this case, and the average across all countries dropped from 0.4 to 0.19. The results for the growth of real private domestic credit turn out to have a similar pattern as when nominal variables were used. The correlation coefficient for Sierra Leone is the largest in the sample (0.8) and turns negative in only two cases - Côte D'Ivoire and Malawi. The average correlation coefficient of 0.38 is almost the same as in the nominal variables case.

Correlations by themselves are not definitive evidence by any means, since they say nothing about causation. Supporting evidence does exist,

however, relating the growth of real GDP to credit.

There is now a large body of empirical work testing the relationship between financial developments and economic growth. In the more recent studies, credit to the private sector has been favoured as a measure of financial development, since by excluding credit to the government; it measures more accurately the role of financial intermediation in channelling funds to the private sector⁶.

Some country specific studies in Africa however show that monetary policy does not necessarily affect the level of inflation. Onyeiwu (2012)⁷ in his study of Nigeria's monetary policy shows that although money supply had positive effects on GDP growth and balance of payments, it had a negative impact on inflation. This suggests that inflation in Nigeria is not necessarily a monetary occurrence but rather a result of structural rigidity in the economy.

A similar study carried out by Cheng (2006) on propagation of monetary policy in Kenya⁸ concludes that a rise in Central Bank of Kenya (CBK)'s repo rate tends to be followed by falling prices and an appreciation of the currency. However, the impact of monetary policy on output is insignificant. The sluggish response of output to monetary policy is attributed to Kenya's weak financial system which is plagued by structural weakness therefore hampering effective monetary transmission to the real sector. This study concludes that given the strong link between monetary policy and inflation amid a weak link between monetary policy, the overriding objective of monetary policy should be to maintain low inflation.

6) Khan and Senhadji (2003), for example, specify a growth model with the usual explanatory variables (investment to GDP, population growth, terms of trade, initial per capita income) and then add credit to the private sector (as a share of GDP) as an additional variable. The model is estimated with data for 159 countries (comprising both industrial and developing countries) and generally covering the period 1960-1999, using both a pure cross-section sample and five-year average panels. In the results for both types of estimations of the growth model, the coefficient on private credit was positive and highly significant, indicating a positive relationship between credit and growth. Furthermore, the introduction of private credit into the growth equations significantly improves the fit of the equation. These results are broadly consistent with those obtained by most other empirical studies. Another way of testing the relationship between output and credit would be to estimate VARs, controlling for other variables affecting the growth of real GDP, which could include government spending, net exports, terms of trade, and so forth.

7) Onyeiwu (2012) uses the Ordinary Least Squares (OLS) Method to analyse data between 1981 and 2008. The study uses three multiple regression models with liquidity ratio, money supply, cash ratio as the independent variables in all three models and GDP, inflation rate and BOP as independent variables in each of the models.

8) Cheng (2006) carried out a study on propagation of monetary policy in Kenya and used a five variable VAR: real output, the price level, the money stock, the central bank's policy rate and the nominal effective exchange.

Other studies suggest that the channel of monetary policy transmission could determine how a country's economic variables are affected. In Nigeria, Ismail O. Fasanya et al (2012) examine the impact of monetary policy on economic growth in Nigeria using time-series data covering the range of 1975 to 2010. The study shows that Long run relationship exists among the variables and that inflation rate, exchange rate and external reserve are significant monetary policy instruments that drive growth in Nigeria.

In Ghana, Mohamedu Amidu (2006), examines whether bank lending is constrained by monetary policy in Ghana. The study⁹ uses panel cross sectional data covering the period from 1998 to 2004 and reveals that Ghanaian banks' lending behaviours are affected significantly by the country's economic activities and changes in money supply. The results of this study were also supported by previous studies that the central bank's prime rate and inflation rate negatively but statistically insignificantly affect banks' lending.

Ronald Mangani (2011) assesses the effects of monetary policy in Malawi by tracing the channels of its transmission mechanism. The study found that there was lack of unequivocal evidence in support of any of the conventional channels of the monetary policy transmission mechanism, and that the exchange rate was the single most important variable in predicting prices. Further work by Harold P.E. Ngalawa (2012) supported this finding and illustrates that bank lending; exchange rates and aggregate money supply contain important additional information in the transmission process of monetary policy shocks in Malawi.

In their recent study on East African Countries (EAC), Davoodi, Dixit and Pixter (IMF, 2013)¹⁰ conclude that an expansionary monetary policy by the way of a positive shock to reserve money increases output significantly in Burundi, Rwanda and Uganda but has no statistically significant effect on prices in any of the EAC countries. However an expansionary monetary policy by a negative shock to policy rate increases prices significantly in Kenya and Uganda and output in

Burundi, Kenya and Rwanda. The sensitivity of the policy rate to prices in Kenya and Uganda is attributed to relatively deeper financial markets and a more competitive banking system.

In general, based on the somewhat limited empirical evidence, it is possible to reach a cautious conclusion that there is a positive relationship between changes in credit to the private sector and output fluctuations. While there is strong theoretical support for this hypothesis, the empirical evidence at this stage is only suggestive (see in the annex a summary of the different transmission channels from the empirical review on both Africa and the world).

4. Monetary Policy Challenges, Strategies and Recommendations for Africa to Support Growth

4.1. Challenges in Implementing Monetary Policy

Monetary authorities still face multiple challenges in the design and implementation of monetary policy. These challenges may be institutional or technical and could emanate from external developments and/or macroeconomic shocks.

The key challenge to effective monetary policy is central bank independence. In some countries, it is a statutory requirement for the central bank to be under the scope of the ministry of finance. In other countries, political forces determine the actions of the central bank thus affecting the central bank's ability to maintain legitimacy and objectivity.

Furthermore, a central bank may be constrained by conflicting monetary policy objectives. Policy makers are often faced with multiple objectives that are equally desirable. This creates challenges in assigning a single policy instrument to an objective. Furthermore, while some objectives are consistent with each other, others are not, for example maintaining the exchange rate at a particular level can often limit a central bank in using policy instruments such as interest rates.

9) In Ghana, Mohamedu Amidu (2006), examines whether bank lending is constrained by monetary policy in Ghana. The study uses panel cross sectional data covering the period from 1998 to 2004 from the database of Bank of Ghana, ISSER and International Financial Statistics of IMF. The bank loan is represented by freely allocated bank loan which is presumably more sensitive to changes in monetary policy. Changes in money supply and central bank' prime rate is a proxy of monetary policy.

10) A very recent study by Davoodi, Dixit and Pixter (IMF, 2013) on monetary policy transmission in the five EAC countries.

Another challenge that dominates most developing countries is the lack of fiscal discipline. This is often characterised by high levels of government budget deficits and public debt. The central bank has to therefore focus its monetary policy towards meeting government spending objectives rather than price stability.

Weak transmission mechanisms mainly caused by under developed financial markets often obstruct monetary policy effectiveness. This may be due to a shaky banking system that may discourage policy makers from the use of aggressive policy rates for fear of the effects of these changes to balance sheets of already fragile banks.

Furthermore, the lack of market integration within developing countries often results into asymmetrical response to monetary policy. Consequently, the delays in the effects of monetary policy on economic activity are relatively longer and more variable. The absence of deep and liquid markets also means that there is inadequate feedback about the effect of the policy actions on the market.

Heavily aid dependent countries also suffer from distortions caused by aid flows. These flows are often volatile and can greatly disorganise policy makers in their efforts to implement monetary policy. Moreover, external shocks like the world wide food and energy prices experienced in 2007 and 2008 may distort inflationary expectations thus make it hard for policy makers to formulate pertinent strategies to respond to these shocks.

Central banks also face technical challenges in implementing monetary policy especially inflation targeting. The central bank needs the technical capacity to model the economy, understand the transmission mechanism and forecast inflation and output.

4.2. Strategies and Recommendations in Implementing Monetary Policy

After a long tradition with high fiscal deficits and high inflation, effort should be made by African economies to achieve a sustainable reduction

of inflation and foster economic growth. The same efforts have paid-off in Latin American countries where the average inflation rate which exceeded one hundred per cent per annum in the 80's, was reduced to single-digit level in the following decade. Inflation strategies were initially based on getting the fiscal situation under control as a way of liberating monetary policy from the financing of fiscal deficits, and have subsequently moved into more formal uses of nominal anchors. The choice of nominal anchors utilized as the cornerstone of the stabilization effort has changed through time as rigid exchange rate mechanisms were being replaced by more flexible arrangements. To facilitate the reduction of inflation, and, as a way of protecting the central bank from the typical political pressures that give rise to time-inconsistency problems, most countries have granted independence to their central banks. Furthermore, central banks have been given a clear mandate and appropriate instruments for achieving a sustainable reduction of inflation.

In general, when setting monetary policy and in order to support economic growth, central banks should look beyond just inflation by taking into account other variables that many times are spelled out in their charter.

Africa should draw lessons and emulate Latin America's success story in monetary policy management and financial markets development¹¹. Thus, in the case of Latin America, Chile for instance was found that the size of the current account deficit, as a share of GDP, is also a variable taken into account when deciding the stance of monetary policy¹².

From the five Latin American countries (Chile, Costa Rica, El Salvador, Columbia and Peru) covered by Mishkin's study (2001), Chile is the one that has made more progress in reducing inflation towards its target level and also in achieving a target close to the inflation levels of industrial countries. This is not surprising, as the progress in reducing inflation depends also on factors beyond just monetary policy.

11) Vittorio Corbo (Agosto 2000). Monetary Policy in Latin America in the 1990s. Central Bank of Chile Working Papers, No 78.

12) Frederic S. Mishkin, Miguel A. Savastano (2001). Monetary Policy Strategies for Latin America, Journal of Development Economics, Vol. 66, 415-444.

These factors include stability of financial markets and institutions, balance of payments equilibrium, the level and quality of information data and the communication facilities in place. In addition, Latin American economies managed efficient monetary policy by getting rid of all that used to undermine the effectiveness of monetary policy which include political interference, fiscal dominance and poor legal environments. It is therefore imperative that monetary authorities operate in an environment with appropriate legal frameworks, conducive political climate and institutional structures that allow for central bank independence. Furthermore, fiscal and monetary policies should be complementary and should ensure consistency with the overall goal for an economy.

In developing countries, monetary policy has become increasingly important in recent years, due to the use of indirect instruments and adopting modern monetary policy management tools. Traditionally, monetary rules have been based on the behaviour of monetary instruments. However, in an environment of large international capital flows with continuing financial innovations and ever more sophisticated asset markets, instrument-based rules in particular, those based on monetary aggregates, have become more difficult to implement. Accordingly, central banks have increasingly embraced the inflation-targeting approach. In some cases, the approach has helped monetary policy become more coherent, transparent, and credible. And, if supported by proper fiscal measures, the inflation-targeting approach has helped policymakers smoothly guide inflation rates, while permitting them some discretion to stabilize output. This regime has become increasingly popular even in developing countries. In Africa (South Africa, Ghana, Botswana, Uganda), are using the strategy and so far the results have been promising.

5. Conclusion

The best contribution that monetary policy can make to support the underlying forces of growth is therefore by fostering a climate of stability by seeking to promote a relatively stable demand climate and by avoiding potentially destabilising pitches in policy. Monetary policy can effectively maintain price stability but it must be accompanied by structural reforms that will create the enabling environment for accelerated growth in the long-run. Therefore, notwithstanding the central bank's monetary policy stance to preserve price stability and create enabling environment to foster growth, structure reform to ease binding constraints in the economy must be implemented to make the economy competitive.

The view that monetary policy affects economic growth (output) through the bank credit channel is increasingly accepted. Recent developments in the global economy have shown emphatically that the freezing up of bank credit has large negative effects on GDP. Therefore, focusing on bank credit appears to be the right way to look at the monetary transmission mechanism. For developing countries, such as those in Africa, the credit channel seems even more appropriate. Although not completely definitive, empirical evidence does seem to support the hypothesis that changes in monetary policy, via changes in the supply of bank credit, affect output fluctuations in sub-Saharan African countries. Monetary policy is not neutral, at least not in the short run. More generally, central banks can and do play a powerful role in the economy, as the "Global Financial Crisis" has so vividly shown over the past years across the world.

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Annex.

Table 7. Main Monetary Policy Transmission Mechanisms in some developed Countries

Country	Interest Rate Channel	Credit Channel(b)	Asset Prices Channel	Exchange Rate Channel	Expectations Channel
Australia	Yes	No	No	Yes	No
Canada	Yes	No	No	Yes	Yes
Chile	Yes	Yes	No	Yes	No
United Kingdom	Yes	No	No	Yes	Yes
Israel	Yes	Yes	No	Yes	No
South Africa	Yes	No	No	Yes	No

Source: Papers by Cagliarrini and DeBelle, Longworth and O'Reilly Cabrera and Lagos, Cunningham and Haldane, Leiderman and Bar-or and Aaron and Muellbauer, and Taylor (1993).

Table 8. Main Monetary Policy Transmission Mechanisms in Latin American Economies

Country	Interest Rate Channel	Credit Channel(b)	Asset Prices Channel	Exchange Rate Channel	Expectations Channel
Chile	Yes	No	No	Yes	No
Colombia	--	--	No	Yes	No
Costa Rica	--	--	No	Yes	No
El Salvador	--	--	No	Yes	No
Nicaragua	--	--	No	Yes	No
Peru	--	--	No	Yes	No

Source: Paper by Norman Loaza and Klaus Schmidt-Hebbel, Central Bank of Chile 2002.

Table 9. Main Monetary Policy Transmission Mechanisms in some African Economies

Country	Interest Rate Channel	Credit Channel ^(b)	Asset Prices Channel	Exchange Rate Channel	Expectations Channel
Burundi	Yes ^(c)	No	No	No	No
Ghana	Yes	Yes	No	No	No
Kenya	Yes	No	No	Yes ^(d)	No
Malawi	No	No	No	Yes	No
Nigeria	Yes	No	No	Yes	No
Rwanda	No	Yes ^(e)	No	No	No
South Africa	Yes	No	No	Yes	No
Tanzania	Yes	Yes	No	No	No
Uganda	Yes	Yes	No	No	No

Source: Papers by Onyeiwu (2012), Cheng (2006), Ismail O. Fasanya et al (2012), Mohamedu Amidu (2006),

Ronaldi Mangani (2011), Harold P.E. Ngalawa (2012), and Davoodi, Dixit and Pixier (2013).

(b): by excluding credit to the government. According to findings so far, this is the only one transmission channel most likely to work for Africa.

(c): Interest rate appears to be a transmission channel, but the effect is not statistically significant, given the direct impact of interest rate on either output or the price level.

(d): ... though the presence of the exchange rate channel seems more pronounced in a policy shock. Previous studies (Cheng, 2006) have shown that Kenya's nominal exchange rate is highly sensitive to changes in the short-term interest rate, which then affects the overall price level through import prices...

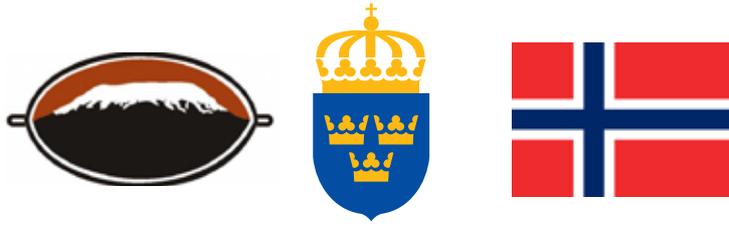
(e): The credit channel seems to be stronger statistically for the response of GDP to a reserve money shock than the response of CPI to a reserve money shock.

(f): ... Other reasons exist for the **weak** MTM in Tanzania; this was supported by findings by Montiel and others (2012). For example, the exchange rate channel could play a role in Tanzania, as in Kenya, but presence of capital controls can be limiting its usefulness. Removal of capital control by 2015, an objective of the Tanzanian authorities, will in anyway trigger strengths in the role of the exchange rate and the interest rate channels.

Notes

Notes

CO-OPERATING PARTNERS



9 Earls Road, Alexandra Park, P.O. Box A1419, Avondale, Harare, Zimbabwe
Tel: +263 4 745988/89/91-4 Fax:+263 4 745547-8 Email: capacity@mefmi.org Web:www.mefmi.org

