



FISCAL MANAGEMENT OF OIL AND NATURAL GAS IN EAST AFRICA

East African Community and International Monetary Fund Workshop

January 15 – 17, 2014
Arusha, Tanzania



Managing Natural Resource Wealth Topical Trust Fund

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Final Agenda - January 17, 2014

East African Community-International Monetary Fund (FAD and AFR) Workshop *Fiscal Management of Oil and Natural Gas in East Africa* January 15–17, 2014 / Arusha, Tanzania

Recent discoveries of oil and natural gas in East Africa have raised great expectations about the role that natural resources can play in the region. There have been natural gas discoveries in Tanzania, and oil in Uganda and more recently in Kenya. Oil and mineral exploration proceeds in Rwanda and Burundi. EAC member states also have other mineral resources. The right frameworks for managing the resource revenue need to be in place to realize benefits from the natural resources. Progress across countries is uneven, but most countries face very related challenges justifying a regional approach.

The workshop provides: (i) an opportunity for governments from the emerging East African oil and natural gas producers to exchange views and experiences on the challenges they face; and (ii) exposure to emerging sound practices for fiscal management of natural resources. The workshop will aim for practical policy guidance in adapting international experience and expertise to the circumstances of EAC Member States. The workshop will draw on recent analytical work at the IMF (on fiscal regimes and macro-fiscal frameworks) and on the experience gained from TA activities. The workshop will balance presentations by Fund staff and experts with presentations by country officials and discussions.

The three-day workshop will be held in Arusha, Tanzania (location of the headquarters of the EAC Secretariat) during 15–17 January 2014. Participants will come from Burundi, Kenya, Rwanda, Tanzania, and Uganda. The will be externally funded from the IMF Topical Trust Fund on Managing Natural Resource Wealth.

The workshop will explore the key issues that governments face in managing the fiscal impact of oil and gas development, and emphasize how the issues and policy choices are interlinked. These relate to (i) the design of the fiscal regime (tax and non-tax instruments) and revenue collection; (ii) options for the macro-fiscal policy framework and the fiscal anchor, including policy considerations relevant in a monetary union context; and (iii) institutional reforms to integrate natural resource revenues into the budget and credible medium-term frameworks, and the role of natural resource funds (NRFs). A technical session will be held on the revenue forecasting framework.

1. Designing the petroleum fiscal regime

The fiscal regime allocates risk and reward between the government and companies. The session will explore policy options between royalty-tax vs. production sharing fiscal regimes (and hybrids), and discuss trade-offs in the choice of fiscal instruments. Simulations will be used to compare the differences in the impact of the fiscal regimes across countries, and also explore how flexible different fiscal instruments are in responding to changes in project profitability.

This session will among others draw on *The Taxation of Petroleum and Minerals*, Daniel and others (2010), and the IMF Executive Board paper on *Extractive Industry Fiscal Regimes: Design and Implementation*.

2. *Issues in Petroleum Revenue Administration*

There is no intrinsic reason for effective and transparent administration of petroleum fiscal regimes—critical for both revenue and investor confidence—to be harder than for other industries. They are simpler than other industries (such as finance and telecoms) in that they involve physical operations with outputs that can be analyzed, weighed, and measured, with prices in most cases quoted on international exchanges. And the vast bulk of revenues is often paid by a few large taxpayers, with a high stake in maintaining government goodwill.

Administration is nonetheless often difficult and badly performed. The (often excessive) variety and complexity of EI fiscal regimes pose serious challenges; tax rules are often complex, unclear, or open to abuse. Even with just a few EI companies, countries often struggle to cope with routine processing and reporting, hampering effective filing and payment enforcement. Royalty administration is often particularly inefficient, with frequent assessments, no annual return, and no reconciliation to commercial accounts and CIT returns. Production-sharing schemes, while having many desirable features, lead to fragmented revenue administration, hindering development of coherent risk-based audit and taxpayer service functions.

The workshop will address these challenges, drawing upon the draft of an IMF/World Bank *Natural Resource Revenue Administration Handbook*

3. *Macro-fiscal policy frameworks and anchors*

The macro-fiscal policy framework needs to balance potentially conflicting objectives: managing resource revenue volatility and taking account of the resource exhaustibility while being sufficiently flexible to accommodate some scaling-up of expenditure given infrastructure and development needs. The session will discuss how to assess long run fiscal sustainability and present options for the design of fiscal frameworks for the short to medium term. These can be underpinned by explicit fiscal rules, which will be illustrated by country examples. There will also be a discussion of challenges countries face when seeking to scale up expenditure given institutional and absorptive constraints, and tools to manage revenue volatility.

The session will among others draw on the IMF Executive Board paper on *Macroeconomic Policy Frameworks for Resource-Rich Developing Countries*.

4. *Implementing institutional reforms*

A modernized and integrated public financial management system is needed to underpin the resource revenue management framework. Natural resource revenue and its associated spending need to be well-integrated into the budget process, treasury operations, and a medium-term fiscal/expenditure framework. Drawing on technical assistance work (including in Uganda), the intention is to highlight key complementary reforms for natural-resource rich LICs to enhance the capacity to design and implement budget frameworks and improve accountability and transparency. In addition, a special issue is the need to improve PFM systems to effectively scale up investment spending. This session will

propose some critical steps based on international evidence. The reforms to integrate an oil management framework into the Uganda PFM law could be used as a case study.

There are different types of funds focusing either on stabilization, savings or sometimes even development spending. Funds can be a useful tool for macro-fiscal management, if they support the implementation of fiscal policy. However, a fund is no substitute for a sound fiscal policy framework. This session will highlight that the focus should be on the design of the fiscal policy framework, with any funds having an important supporting role (e.g., as a financing fund for the budget). Based on international examples, the various potential objectives of funds will be discussed, as well as how to effectively integrate them with the fiscal framework, the budget, and treasury operations.

This session will draw upon M. Cangiano, T. Curristine, and M. Lazare (editors), 2013, *Public Financial Management and Its Emerging Architecture* (Washington: International Monetary Fund).

5. *Technical session: Strengthening Natural Resource Revenue Forecasting*

A weak revenue forecasting framework for natural resources undermines the ability to design and assess medium to long term fiscal frameworks and even to formulate annual budgets. This session presents a framework for revenue forecasting and analysis with bottom-up models for individual natural resource projects. These project models would use a simplified version of the FARI model that has been successfully applied in simulating policy reforms in a number of Africa countries. Outputs from the revenue forecasting model can be integrated into the fiscal projections and also provide other inputs into the (medium-term) macroeconomic framework. The revenue forecasting module should have functionality to simulate the impact of price and production volatility and uncertainty. The framework can build in various “fiscal rules” that could be used to simulate their impact on fiscal indicators and projections.

This technical session will draw upon forthcoming *IMF Technical Notes and Manuals* on the design of the FARI system and on the modeling and calculation of resource tax and fiscal instruments.

Conference Team: Robert Maate (EAC Secretariat; Thomas Baunsgaard (IMF Resident Representative in Dar es Salaam, AFR); Philip Daniel, Duncan Last, Oana Luca and Andrew Okello (all FAD), assisted by Maura Ehmer and Maria Delariarte (Washington DC) and Mita Samat (Dar es Salaam).

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East African Community and International Monetary Fund (FAD and AFR) Workshop



under the MNRW TTF

Arusha, Tanzania
 January 15–17, 2014



DATE / TIME	SESSION AND TOPIC
Tuesday, January 14 6:00 – 8:00 pm	Arrival of participants Evening Reception
DAY 1: Wednesday, January 15	
8:30 – 9:00 am	Registration
9:00 – 10:00am	Opening Session
Chair	Enos Bukuku, Deputy Secretary General, EAC
9:00 – 9:30 am	Opening Address Richard Sezibera, Secretary General, EAC Michael Keen, Deputy Director, Fiscal Affairs Department, IMF Roger Nord, Deputy Director, African Department, IMF
9:30 – 10:00am	Keynote Address Hon. Davis Chirchir, Cabinet Secretary for Energy and Petroleum, Kenya
10:00 – 10:30 am	Keynote Address Hon. Aston Kajara, Minister of State for Privatization, Ministry of Finance, Planning and Economic Development, Uganda
10:30 – 10:45 am	Coffee
10:45 – 11:45 am	Session 1 (Part 1): Regional and Country Overview
Chair	Enos Bukuku, Deputy Secretary General, EAC
	1. Tanzania Adolf Mkenda, Deputy Permanent Secretary, Ministry of Finance, Tanzania
	2. Uganda Ernest Rubondo, Petroleum Commissioner, Ministry of Energy and Minerals, Uganda Philips Obita, Senior Geophysicist, Ministry of Energy and Minerals, Uganda
Discussant	Bill Page, Energy and Resource Leader, East Africa, Deloitte
11:45 – 1:00 pm	Session 1 (Part 2): Regional and Country Overview
Chair	Enos Bukuku, Deputy Secretary General, EAC
	3. Kenya Esther Koimett, Investment Secretary, National Treasury, Kenya
	4. Implementing EITI in Tanzania Innocent Bash, EITI Secretariat
Discussant	Bill Page, Energy and Resource Leader, East Africa, Deloitte

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DATE / TIME	SESSION AND TOPIC
1:00 – 2:00 pm	Lunch
2:00 – 3:30 pm	Session 2: Designing the Petroleum Fiscal Regime
Chair	Thomas Baunsgaard, IMF Resident Representative in Tanzania
	5. Petroleum Fiscal Regimes: Design and Implementation Michael Keen, Deputy Director, Fiscal Affairs Department, IMF
	6. Natural Gas: Fiscal Regime Challenges Lex Huurdeman, Senior Oil and Gas Expert, SEGOM, World Bank
Discussants	Wilson Wasike, Department of Economic Affairs, National Treasury, Kenya Tonedeus Muganyizi, Director, Research and Policy, Tanzania Revenue Authority
3:30 – 4:00 pm	Coffee
4:00 – 5:30 pm	Session 3: Petroleum Revenue Administration
Chair	Aude Toyi, Director, LTO, Department of Revenue, Burundi
	7. Overview of Petroleum Revenue Administration Issues (FAD Handbook) Andrew Okello, Senior Economist, Fiscal Affairs Department, IMF (by video)
	8. Petroleum Tax Administration in EAC Countries—Private Sector Perspective Bill Page, Energy and Resource Leader, East Africa, Deloitte
Discussants	Neema Mrema, Commissioner, LTO, Tanzania Revenue Authority John Mayanja, Assistant Commissioner, LTO, Uganda Revenue Authority
6:30 pm onward	Informal Reception
DAY 2: Thursday, January 16	
9:00 – 10:30 am	Session 4: Panel on Petroleum Fiscal Regime Design and Implementation
Chair	Lawrence Kiiza, Director, Economic Affairs, MoFPED, Uganda
Panel	Martin Heya, Petroleum Commissioner, Kenya Pancrasius Nyaga, Commissioner of Domestic Taxes, Kenya Revenue Authority Joe Amoako-Tuffour, Senior Advisor, African Center for Economic Transformation (ACET) Philip Daniel, Advisor, Fiscal Affairs Department, IMF
10:30 – 11:00 am	Coffee
11:00 – 12:30 pm	Session 5: Macro-fiscal Policy Frameworks and Anchors
Chair	Roger Nord, Deputy Director, African Department, IMF
	9. Overview of Issues Thomas Baunsgaard, IMF Resident Representative in Tanzania

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DATE / TIME	SESSION AND TOPIC
Discussant	10. Challenges in an EAC Country (Kenya) Wilson Wasike, Department of Economic Affairs, National Treasury, Kenya Joe Amoako-Tuffour, Senior Advisor, ACET
12:30 – 1:30 pm	Lunch
2:00 – 3:30 pm	Session 6: Panel—Macro-fiscal Frameworks
Chair	Adolf Mkenda, Deputy Permanent Secretary, Ministry of Finance, Tanzania
Panel	Lawrence Kiiza, Director, Economic Affairs, MoFPED, Uganda Donald Mmari, Director, Research on Growth and Development, REPOA Ragnar Gudmundsson, IMF Resident Representative in Kenya Clement Ncuti, Economist, Macroeconomic Policy Unit, Ministry of Finance and Economic Planning (MoFEP), Rwanda
3:30 – 4:00 pm	Coffee
4:00 – 5:30 pm	Session 7: Implementing Institutional Reforms (PFM)
Chair	Esther Koimett, Investment Secretary, National Treasury, Kenya
	11. The Emerging Architecture of PFM Duncan Last, Senior Economist, Fiscal Affairs Department, IMF
	12. Uganda's Experience in Reforming PFM for Oil Maris Wanyera, Commissioner, MoFPED, Uganda
Discussants	Joe Amoako-Tuffour, Senior Advisor, ACET
7:00 – 9:00 pm	Session 8: Dinner and Panel—Implementing Institutional Reforms (PFM)
Chair	Michael Keen, Deputy Director, Fiscal Affairs Department, IMF
Panel	Josiane Kamikazi, Technical Adviser, MoFPED, Burundi Donald Mmari, Director, Research on Growth and Development, REPOA Duncan Last, Senior Economist, Fiscal Affairs Department, IMF Roger Nord, Deputy Director, African Department, IMF
DAY 3: Friday, January 17	
9:00 – 10:30am	Session 9: Regional Fiscal Dimensions of Petroleum Development
Chair	Enos Bukuku, Deputy Secretary General, EAC
	13. Pipelines and Cross-border Infrastructure: Tariffs, Taxation, and Access Philip Daniel, Advisor, Fiscal Affairs Department, IMF
	14. Regional Fiscal Harmonization Issues Robert Maate, Senior Statistician, EAC Secretariat

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DATE / TIME	SESSION AND TOPIC
Discussant	Irénée Nizere, Director, Petroleum Exploration, Geology and Mines Department, Rwanda Natural Resources Authority
10:30 – 11:00 am	<i>Coffee</i>
11:00 – 12:00 pm	Session 10: Panel—What Have we Learned and Where to Next?
Chair	Roger Nord, Deputy Director, African Department, IMF
Panel	Lawrence Kiiza, Director, Economic Affairs, MoFPED, Uganda Esther Koimett, Investment Secretary, National Treasury, Kenya Adolf Mkenda, Deputy Permanent Secretary, Ministry of Finance, Tanzania Joe Amoako-Tuffour, Senior Advisor, ACET Donald Mmari, Director, Research on Growth and Development (REPOA)
12:00 – 12:30 pm	Concluding Address
	Hon. Saada Salum, Acting Minister of Finance, Tanzania
12:30 – 1:00 pm	Summing up and conclusion
	Michael Keen, Deputy Director, Fiscal Affairs Department, IMF Enos Bukuku, Deputy Secretary General, EAC
1:00 – 2:00 pm	<i>Lunch</i>
2:00 – 3:00 pm	Workshop Session A: Strengthening Petroleum Fiscal Regime Analysis
Chair	Philip Daniel, Advisor, Fiscal Affairs Department, IMF
	<i>The FARI Framework: Fiscal Regime Design and Evaluation</i> Oana Luca, Economist, Fiscal Affairs Department, IMF
Discussants	Wilson Wasike, Senior Policy Analyst, Economic Affairs, National Treasury, Kenya Tonedeus Muganyizi, Director, Research and Policy, Tanzania Revenue Authority Innocent Bash, EITI Secretariat
3:00 – 4:00 pm	Workshop Session B: Strengthening Petroleum Revenue Forecasting
	<i>The FARI Framework: Petroleum Revenue Forecasting</i> Oana Luca, Economist, Fiscal Affairs Department, IMF <i>Simulation of Potential Gas revenues in Tanzania</i> Thomas Baunsgaard, IMF Resident Representative in Tanzania
Discussants	Martin Mungai, Chief Accountant, National Oil Corporation of Kenya Maris Wanyera, Commissioner, MoFPED, Uganda

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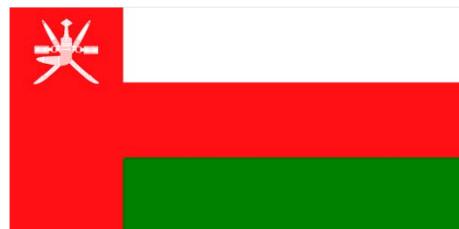
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EAST AFRICAN COMMUNITY



Welcoming remarks by the EAC Secretary General

Dr. Richard Sezibera

Regional Workshop on Fiscal Management of Oil and Natural Gas Management in East Africa

in Arusha- Tanzania, 15th – 17th January, 2014

**Hon. Aston Kajara, Minister of Finance, Planning and Economic
Development, Uganda,**

Hon Davis Chirchir, Cabinet Secretary responsible for Energy,

Permanent Secretaries present

Mr. Roger Nord, Deputy Director, Africa Department, IMF;

Mr. Michael Keen, Deputy Director, Fiscal Affairs Department, IMF,

Distinguished Delegates and IMF Staff,

My colleagues from the Secretariat

All Protocol observed,

Ladies and Gentlemen,

Hon Ministers, distinguished delegates

On behalf of the East African Community, and my own behalf, I am honoured to formally welcome you to Arusha - Tanzania, and in particular to this workshop on Fiscal Management of Oil and Natural Gas in East Africa.

Before I continue with my remarks, I would like to request that we all stand and observe a minute of silence in memory of the late Hon. Dr. William Mgimwa, Former Minister of Finance of the United Republic of Tanzania who passed away in South Africa early this month.

Thank you. May the Good Lord rest his soul in eternal peace.

I wish to thank the Government of the United Republic of Tanzania and the people of Arusha for the warm hospitality they have accorded the EAC and her guests. I also want to extend the same note of appreciation to the management of this Hotel for being good partners.

In the same breath, I welcome the IMF team and extend our gratitude to the IMF for sponsoring this workshop and the support the Fund has continuously extended to us in support of the EAC integration agenda. The EAC counts on the IMF support as we move towards a single currency during the ten-year transition period of EAC Monetary Union.

Hon Ministers, Distinguished Delegates,

The EAC Monetary Union (EAMU) Protocol was signed by the Heads of States in November, 2013. The EAMU Protocol has a road map to single currency and will see the EAC enter into the single currency area in 2024. During the ten years transition period to single currency, different activities will be undertaken including:

- a) Establishing and building Regional Institutional Frameworks;

- b) Attainment and maintenance of the Macroeconomic Convergence targets;
- c) Harmonization of: Fiscal Policies, Statistical Frameworks, Payment and Settlement Systems; and
- d) Development of framework for formulation of a single monetary and exchange rate policy.

This workshop on Fiscal Management of Oil and Natural gas will in no doubt make a big step in fiscal policy management since revenue from finite natural resources such as oil and natural gas most definitely present opportunities for EAC's solid-economic development but can also destabilize macro-economic management if not well managed.

Hon Ministers, Distinguished delegates,

As you are aware, recent discoveries of oil and natural gas in East Africa have raised great expectations about the role that natural resources can play in the region. We have had discoveries of natural gas in Tanzania, and oil in Uganda and more recently in Kenya. There are significant reserves of methane gas in Rwanda and possible oil and gas reserves in Burundi. This is in addition to the other mineral resources that are already being exploited.

This calls for robust frameworks for managing revenue from this resource in order to benefit the East Africans. The EAC region is bound to take off to the emerging economies if the revenues from natural resources are well managed compounded with the establishment of the single currency and adherence to prudent and sound fiscal and monetary policies. It seems to me that as a region we need to harmonize our thinking and policies on three main pillars of resources management: -

- I. Management of the resources themselves;

- II. Management of the revenue from the resources; and
- III. Management of the environment.

Hon Ministers, distinguished delegates,

This workshop will concentrate on the management of the revenue from resources. Over the coming months, the EAC Secretariat will convene meetings of the relevant stake holders to discuss and reach agreement on the management of the other two pillars as directed by the Summit of the Heads of State.

This meeting is also expected to provide practical policy guidance in adapting international experience and expertise on revenue management domesticated to the circumstances of EAC Partner States. Given the wealth of knowledge and analytical work of the IMF, on fiscal regimes, natural resource revenue administration, public financial management and macro-fiscal frameworks, this workshop will go a long way to guide the EAC region on the appropriate fiscal regime in the context of EAMU.

Hon Ministers, Distinguished delegates,

I am confident that resolutions reached here today will guide the region on the:

- a) design of the fiscal regime (tax and non-tax instruments) and revenue collection;
- b) development of options for the macro-fiscal policy framework and the fiscal anchor, including policy considerations relevant in a monetary union context; and
- c) identifying the necessary institutional reforms to integrate natural resource revenues into the budget and credible medium-term frameworks, including the role of natural resource funds (NRFs).

Finally, allow me to thank the IMF for its continued support to the EAC integration agenda and you the Partner States for your zeal to build the EAC. Given your tight schedule and work before you, allow me with these few remarks, to thank all of you for your attention and wish you very fruitful discussions.

East African Community Secretariat

Arusha, Tanzania



KEYNOTE SPEECH BY HON. DAVIS CHIRCHIR, THE CABINET SECRETARY, MINISTRY OF ENERGY AND PETROLEUM IN THE REPUBLIC OF KENYA DURING THE IMF CONFERENCE ON FISCAL MANAGEMENT OF OIL AND GAS RESOURCES IN EAST AFRICA HELD AT MOUNT MERU HOTEL, ARUSHA TANZANIA FROM 15TH TO 17TH JANUARY 2014.

Distinguished Guests, Ladies and Gentlemen,

It gives me great pleasure and honour to be granted this opportunity to make this Keynote address at this conference which has been organized by the International Monetary Fund in collaboration with the East African Community Secretariat.

I must again add that the timing and the importance of this conference to the East African Partner States cannot be gainsaid. This is considering the fact that, the East African Region is rapidly emerging as the preferred investment destination by international oil companies which own the risk capital for conducting upstream oil and natural gas operations.

It is still fresh in our memories that in the very recent past oil and gas companies had been directing their resources to countries where production of petroleum resources were already on stream. East Africa remained isolated as a frontier exploration zone due to perceived high geological risk. That perception has since changed due to the encouraging discoveries have taken place in region including the:

- Commercial Natural Gas deposits in the Songo Songo and Mnazi Bay fields in Tanzania,

- Crude oil deposits in the Albertine Graben of Uganda,
- Methane deposits in Lake Kivu in Rwanda
- Current crude oil deposits in the Tertiary Rift Basin and the Natural Gas discovery in offshore Block L8, Lamu Basin in Kenya.

Ladies and Gentlemen

On the basis of the achievements made so far, if the upward trend of delineating additional hydrocarbon prospects is sustained, there is no doubt that East African region is set to become a major hydrocarbon producing province in Africa. This is supported by the fact that currently out of a combined East African sedimentary basin surface area of about 900, 000km² it is only a number of about 190 exploration wells that have so far been drilled in that expansive area.

The number of the wells drilled relative to the expansiveness of the regional sedimentary basins translates into very low average well density of about one well in every 5000 km² when compared to international standards. Such low well density helps to inform us that East Africa remains relatively underexplored and we still have a lot of untapped petroleum potential in our sedimentary basins.

However, if the current heightened investor interest continues and it is matched with increased exploration budgets, the well density will be enhanced. This will most likely lead to more oil and gas discoveries.

The current developments have had a very positive impact of projecting East Africa as a promising alternative destination for exploration and production of commercially viable oil and gas resources.

Ladies and Gentlemen

However, even with these positive developments it is important for the region not to relent in its efforts to intensify exploration with a view to increasing the daily rates of production. At the same time there is need to match these efforts with putting in place mechanisms that will guarantee sustainable management and utilization of petroleum revenues that will accrue from these resources.

It is therefore of critical importance for us to use this conference to share experiences, acquire knowledge and skills that will help to see East Africa evolve as a role model for sustainable development and management of the oil and gas resources.

It is therefore crucial for the five East African Partner States to jointly and collectively do all that is practically possible within the existing but very limited window of time to design both short and medium term strategies and measures that will assist us to meaningfully prepare to manage our oil and gas resources and to mitigate the huge challenges that lie ahead.

I am therefore happy to note that the International Monetary Fund team and the East African Secretariat have through this conference provided East Africa with the a forum to benefit from the immense knowledge, skills and experience that the IMF team has built over a long period of time. I am saying so because the IMF is currently assisting Kenya to carry out an extensive review of fiscal regimes for the country's extractive industry. I therefore want to appreciate the IMF team and to acknowledge the important role the IMF is playing to assist East Africa to acquire skills and competences in this area of managing the fiscal regimes of oil and gas and the larger extractive industry.

Ladies and Gentlemen

You can bear me witness that under the circumstances, there could not have been a better institution than IMF to plan and facilitate building of capacity for the region on this subject of Fiscal Management of Oil and Gas.

On the same note, I want to acknowledge the achievements made by the East African Community with regards to:

- Organization of the East African Petroleum Conference and Exhibition to which the current heightened investor interest in oil and gas developments is largely attributed.
- Establishment of the East African Community Customs Union to govern movement of goods into and within the region among the East African Community (EAC) Partner States.
- East African Community Common Market Protocol that sets the regional legal basis for free movement of factors of production within the EAC and;

- Other upcoming regional developments

Ladies and Gentlemen

Pursuant to the above developments, it therefore goes without saying that like the rest of Africa; the East African Region is blessed with a wide range of natural resources which unfortunately remain largely under-explored.

This remains the case yet if sustainably harnessed the natural resources can create wealth and jobs which will be used to uplift the standards of living of the citizen of this region the majority of whom sadly live below the poverty line. We need to utilize the natural resources such as mineral deposits, oil and gas, water amongst others to move towards poverty reduction in line with the United Nation's Millennium Development Goals (MDGs).

In that regard, we as the leaders will not have any good reason to explain to the citizens of East Africa why the region should remain hostage to being a net importer of crude oil and refined petroleum products which form about 20% of the regions total import bill. This in turn directly contributes to escalating the cost of living in the region.

Ladies and Gentlemen

It is therefore time to work together to address and mitigate the challenges that either delay or become impediments to enabling the people to realize the full benefits across the whole value chain of oil and gas production and sale.

Some of the existing challenges we have encountered in the management of oil and gas resources :

1. Oil and Gas Exploration is very capital intensive and Governments on a global scale are compelled to heavily rely on international oil companies who own the risk capital to show good will to invest in the upstream sub-sector of the petroleum industry.
2. The East Africa Region is competing with other regions for the finite risk capital held by investors and in most cases International oil companies will

choose to divert their investments to countries where existence of hydrocarbons have been proven hence risk reduced to quantifiable levels.

3. Lack of a Framework on evaluating a decision for State participation. The main challenge is on the ability of Governments to contribute its share of participation considering many competing needs. In addition;
 - (i) Lack of capacity in terms of equipment, skills and experience of the national human capital will be a major challenge in preparing accelerated implementation of local petroleum operations.
 - (ii) Auditing of recoverable petroleum costs
 - (iii) Implementation of Local Content requirements
4. Lack of a clear framework for communication strategy leads to challenges in the management of expectations. This culminates into misinformation, suspicion, mistrust, speculative analysis which combined casts a cloud of uncertainty among stakeholders/local communities who feel are being shortchanged with regards to their entitlement of benefits that are thought to accrue from the petroleum resources. This precipitates into conflict between local communities on one side and the oil companies operating in the affected areas and the Government on the other side.

Some of the Key areas of conflict are:

- (i) Mechanisms for Petroleum Revenue sharing
 - (ii) Corporate Social Responsibility projects
 - (iii) Local Content issues in terms of preferential employment of local communities and preferential award of tenders to the local communities to supply of goods to the oil companies operating in a given area
5. Lack of infrastructure for quick monetization of the commercially viable oil and gas resources: It is noted that there is an overwhelming mis-match between the rate at which the region is making new oil and gas finds and the rate at which the infrastructure is put in place.

We need jointly take note of the fact that Oil and Gas infrastructure projects are very capital intensive and investment decisions need to be driven by considerations on medium to long term project economics with regards to critical factors such as:

- (i) Cost of capital
 - (ii) Availability and the distance to the market
 - (iii) Demand and consumption profiles.
 - (iv) Location and proximity of produced resource to points of export
 - (v) Economies of scale of given projects
6. Regional Legal, Regulatory and Fiscal Frameworks are not harmonized:
 - Licensing of blocks implemented under different frameworks
 - Natural gas Policies and fiscal frameworks are different
 - Cost Oil and Cost Gas recovery rates are individual country designed
 - Capital gains tax on farm in assignment.

Tranches and percentages of profit oil and profit gas share between Contractor and Government are also individual country based.-Kenya in its newly developed gas terms is considering a petroleum profit sharing that will be based on economic criterion, such as the R-factor, instead of arrangements based on volumes, hence the urgent need to building capacity in auditing of recoverable petroleum costs.

7. Schemes for income Tax- either Government Pay on behalf or come up with new schemes.

Ladies and Gentlemen

Let me therefore wish every participant in this conference very fruitful and value addition deliberations which I know will assist the region to prudently manage its oil and gas resources to ensure that the revenues that will accrue will equitably benefit all the citizens.

THANK YOU FOR YOUR ATTENTION.

SECRET - EYES ONLY



THE REPUBLIC OF UGANDA

KEY NOTE ADDRESS

BY

HON. ASTON P. KAJARA

**MINISTER OF STATE FOR FINANCE, PLANNING AND
ECONOMIC DEVELOPMENT IN CHARGE OF PRIVATIZATION
(UGANDA)**

ON

OIL AND GAS CHALLENGES IN EAST AFRICA'S ECONOMIC FUTURE

AT

MOUNT MERU HOTEL, ARUSHA

JANUARY 15, 2014

Let me start by thanking The EAC SG and IMF Management for organising this workshop where EAC Partner States can share experience with regard to natural resources. Management. Recent discoveries of oil, gas and minerals EAC Partner States has raised big expectations. The timing of this workshop is timely in sharing experiences and addressing challenges associated with natural resources and how to put in place effective frameworks for fiscal management including fiscal regime that should guarantee government's their fair share.

I believe the presentations and discussions will be stimulating and will provide responses to some of the major issues the People of EAC have been raising with regard to management of natural resources and the benefits that will be derived in improving their welfare and promoting economic growth.

I am also struck by the enthusiasm and attendance and this implies that together we can make a difference in the management of natural resources including revenue management.

The extraction of natural resources—oil, gas, and hard minerals can play a large role in our economies provided we put in place good frameworks for effective management. Fortunately there are good examples of countries to learn from. In almost half of the countries in sub-Saharan Africa, non-renewable natural resources account for over 25 percent of total exports. In some of these, the ratio is over 80 percent.

And the number of countries exporting large quantities of hydrocarbons and minerals is growing by the year beyond Nigeria and Angola—Mozambique has already started exporting coal and has recently discovered natural gas deposits, Ghana recently started to extract oil, Uganda and Kenya will soon

start producing oil and Tanzania and Rwanda are well endowed with gas. Burundi is advanced in oil and mineral exploration.

But, as all of us know, such endowments can be a mixed blessing. Whether one talks of the resource curse or the paradox of plenty, the message is the same: There are massive challenges to be faced in ensuring that resource wealth contributes in a sustained and inclusive growth and higher living standards for the people of East Africa.

So we have a serious responsibility here today. We must use our combined knowledge to find ways to turn substantial resource assets into greater economic welfare. First, let me mention some good news. Despite all the gloomy talk, there is increasing evidence that natural resource extraction and the commodity price boom have fostered economic growth in a number of sub-Saharan Africa Countries over the last decade. For every year—except 2009—natural resource exporters have grown as fast as or faster than other countries in the region.

But we also know some of the challenges in natural resource management involving principles of economic management—These include among others:-

- How best to negotiate with international resource companies including getting a fair fiscal regime
- what is the appropriate fiscal deficit,
- are fixed but adjustable exchange rates a useful stabilization tool,
- should savings be held in autonomous sovereign wealth funds?

Fundamentally, however, none of these issues can be faced effectively unless we address the basic challenge: **How to ensure that we have adequate institutional capacity within our countries and share experiences as a region to manage challenges associated with natural resources.**

We therefore, need to devote considerable resources into analyzing these issues especially

- how we ensure protection of the non-oil economy
- appropriate macroeconomic policy frameworks relating to the macroeconomic and microeconomic challenges for natural resource revenues.

With regard to Resource Revenue which present specific *advantages and challenges* as against other government sources of financing. The Advantage- is that resource revenues are generated by the **discovery of a subsoil asset-** the oil in the ground, a “gift from nature”.

However the challenge is how to avoid the resource curse- a complex phenomenon which through several economic, institutional and political economy transmission mechanism, resource abundance may translate into stagnation, waste and conflict.

As we know from experience elsewhere one of the transmission mechanism is the “Dutch Disease” – set of negative macroeconomics effects caused by large increase in resource-funded spending- if allocated to domestically produced goods; can push up domestic prices, the nominal exchange rate, and eventually appreciate the real exchange rate and in turn a shift of capital and

labour into the production of nontraded goods and erosion of the competitiveness of the non-resource economy.

The second transmission mechanism is the extreme volatility of resource revenues- which can lead to **waste (due to pressure that large sudden increases in resource funded spending put on the country's administrative capacity), boom, and bust cycles(upward and downward adjustments of expenditures) and excessive borrowing (could arise to sustainability of the budget)**

The third Transmission mechanism is that resources generated are by depleting a non-renewable non-financial asset- exhaustible and temporary. This could be considered as derived from the consumption or sale of an existing asset rather than an addition to income.

The final Transmission Mechanism- the risk of an excessive reliance on resource revenues could transform a country into a rentier state.

Therefore, the objective for EAC Partner States should be to implement an oil & gas revenue management framework that **supports macroeconomic stability and is transparent, robust, and promotes accountability.**

The question then arises as to how EAC Partner States will maximize the benefits from recently discovered non-renewable resources. History has not been promising as illustrated by the fact that the majority of resource-rich, low income developing countries have performed more poorly on a range of development criteria than have resource poor, low income developing countries. Nevertheless, lessons can be drawn from past successes and

failures, the approach we have to take in designing our petroleum revenue management policies.

In the short run, one of the major tasks faced by economic policy makers is to reduce the effects of exhaustible and volatile resource prices on the domestic economy. If all of the windfall gains are passed through into the economy, this often results in high inflation and an over-valued real exchange rate. Exports of other products are unable to gain a foothold in the economy, leaving the economy vulnerable when the resource wealth runs out.

Fiscal policy offers some solutions. If, for instance, fiscal policy is guided by medium-term fiscal framework objectives rather than year-to-year swings in revenue, it can help temper the effects of volatile resource prices. Here again, the evidence of the last decade is encouraging.

Whereas previously countries had tended to spend windfall gains immediately, and then were forced into savage cuts when prices or production dropped, the profiles of government spending in the last decade have been much smoother. As a result, fiscal policy in the ten resource exporters that collect sizeable fiscal revenues has not been pro-cyclical. While resource prices have moved up and down, the non mineral budget deficit has stayed fairly stable and has even moved in counter-cyclical fashion in some countries (e.g. Botswana).

In consequence, the volatility in resource exporters' non-resource GDP has fallen over the past decade– an enormous improvement over the boom-bust cycles of the previous two decades. Fiscal policy must also address long-term

issues. How much of the gains from natural resource exploitation should be spent in the short term – **to boost health, education, and infrastructure investment– and how much should be saved for future generations?** For instance, Uganda has massive health and education needs and large infrastructure deficits; hence revenues have to support investment to raise GDP per capita considerably through stimulating higher productivity and longer life-spans. Indeed, expenditures on these categories can all be considered investments (or saving for the future) because they raise the production capacity of the economy.

Of course, the timing of these investments depends on whether the economy is in a position to put them into place without meeting domestic bottlenecks and is able to utilize them effectively.

I look forward to **the discussions on how best to transform the windfall revenues to permanent income while avoiding overheating the economy but instead sustain higher growth and avoid *Dutch Disease*.**

In terms of **sustainability**, the key issue is for these investments to be productive in the sense that they actually increase the long-term growth rate of the economy– and even return revenue to the government. In this respect it is critical to develop tools and structures to assess whether public investments can earn sustainable rates of return.

One message in particular that comes from the history of mining and resource development is that there is no such thing as an overnight policy pill or smooth straight line road to prosperity with resource development. **The resource road is full of potholes, sharp turns, ‘one-way streets’, dead-ends, steep drops and equally steep surges.**

At the same time we can also see that the resource road offers, potentially, a way forward to a more prosperous society with reduced poverty and improved quality of living, provided we take some care in designing and building the road and its supporting service stations. **The returns to good decision making in the management of natural resources wealth are exceptionally high and at the same time the damage caused by bad decisions can be carried by future generations for many years to come.**

The capacity of people, industry and government to deal with the increasingly volatile resource environment seems to be central to making the most of resources.

The final remark switches gears from macro to structural policies by asking how we can improve governance and transparency in managing natural resources within EAC Partner States. There is a positive relation between the quality of institutions and per capita growth, underscoring the importance of institutions.

The sharing of petroleum and other resource benefits and costs (including environmental, social and economic) remains one of the great challenges to resource development in Africa. I am speaking here of revenue and cost sharing at the sub-national level – many of us operate in some type of federal structure and have experienced the social and political pressures associated with revenue sharing-; of environmental cost and benefits; and social costs of relocation and adjustment. **What lessons can we share on this during this workshop?**

We are very happy to have IMF experts that have been working on these issues and have global experience and hope we can benefit out of their experiences. I look forward to the ensuing discussions as we marshal experiences on how best to manage these new revenues in ways that can expand our economies and consolidate and build on the gains that have been made in living standards over the past decade in EAC Partner States.

In conclusion, I think we all agree that we should have regard to the welfare of future generations, **but remember that bequeathing them a thriving economy, with good infrastructure, growing social and human capital, is just as important as bequeathing financial wealth or oil or minerals in the ground.**

We have seen the story of economic growth from minerals and energy in resource rich countries. What are the lessons from this experience that we can take in East Africa? First and foremost it would seem that high quality governance and institutions is paramount to success. If we can achieve high standards in this area then a large part of the resource curse or 'Dutch Disease' concern seems to be diluted.

But infrastructure is likely to remain a pressing problem, especially electricity generation and transport infrastructure. Can we solve the electricity generation without shifting from our current renewable sources and becoming increasingly dependent on fossil fuels, especially if we have aspirations for a diversified and fast growing industrial structure? If we are to have an increasingly diversified industrial structure then what role can a

commodity or sovereign wealth fund play in stabilizing our economies and enhancing the welfare of our future generations?

Again, let us remind ourselves that the returns to good decision making in the management of natural resources wealth are exceptionally high and at the same time the damage caused by bad decisions can be carried by future generations for many years to come. For this reason let us see if we can come up with good solutions for our children and their children in the years to come.

I have full trust that the three days will be productive and the take home lessons will benefit the EAC. Wishing you fruitful discussions

Thank you.

THE UNITED REPUBLIC OF TANZANIA



AN OVERVIEW OF NATURAL GAS INDUSTRY IN TANZANIA

Adolf F. Mkenda
January 15, 2014– Arusha Tanzaniaia

I. Introduction

- Tanzania is endowed with diverse hydrocarbon energy resources including natural gas, coal, geothermal and possibly oil much of which is untapped.
- Oil and gas exploration activities are currently given high priority with a view to substituting expensive imported petroleum fuels that absorbs on average 55% of the country foreign exchange earnings.

II Status of Oil and Gas Potentials

- Exploration of oil and natural gas in Tanzania has been going on for the last 60 years.
- The first natural gas discovery took place in 1974 on the Songo Songo Island in Lindi. This discovery was commercialized in 2004
- In 1982 a second discovery of natural gas reserve was made at the Mnazi Bay, Mtwara. This discovery was made commercial in 2006
- In 2010 large quantity of natural gas was discovered in the deep sea along the with Tanzania's waters.
- A total of 67 wells for both exploration and development have been drilled between 1952 and 2013.
- By June 2013 natural gas discoveries of about 42.7 trillion cubic feet (7.5 billion barrels of oil equivalent) have been discovered both onshore and offshore.

III. Current Development

- Currently natural gas production and exploration activities are concentrated offshore in a deep water basin that the country shares with Kenya & Mozambique.
- Up to July, 2012 TPDC had entered into 26 Profit Sharing Agreements (PSAs) with various foreign oil companies for search and exploration of oil and gas. Out of 26 agreements signed, 17 are onshore and 9 are offshore. The multinational oil companies include STATOIL, BG international/Ophir, PETROBRAS and Maurel Promo Exploration and Production (T) Ltd among others. (A full list of all companies which had PSA is attached.)

IV. Exploration activities and legal framework

Upstream legislations;

- National Energy Policy 2003
- Petroleum (Exploration and Production) Act, 1980
- The Model Production Sharing Agreement, 2008 (MPSA) between the Government, TPDC and the Oil Company.

Exploration activities and legal framework (Cont'd)

Downstream legislations

- Natural Gas Policy, 2013.
- Natural Gas Act (in the making)
- National Gas Utilization Master Plan

Exploration activities and legal framework (Cont'd)

Petroleum (Exploration and Production) Act, 1980

- Petroleum exploration in Tanzania is governed by the Petroleum Exploration and Production Act (PEPA), 1980.
- Under the Act, the oil and gas industry in Tanzania is regulated by the Ministry of Energy and Minerals, which sets industry-specific policies, strategies and laws.

Exploration activities and legal frame work (Cont'd)

- The Act vests title to petroleum deposits within the United Republic of Tanzania (URT) in the State and is designed to create a legal environment for companies to be able to explore and produce oil.
- The Petroleum Act 1980 applies to any naturally occurring hydrocarbon, whether in gaseous, liquid or solid state, or any mixtures thereof, vests title and control over petroleum in any land to which the Petroleum Act applies in the state.
- The Act expressly permits the Government to enter into a petroleum agreement known as Profit Sharing Agreement (PSA) under which an oil company may be granted exclusive rights to explore for and produce petroleum.

Model Production Sharing Agreement (MPSA)

- Tanzania relies on Production and Sharing Agreement (PSAs) to promote exploration of petroleum (oil and gas).
- Under the Production Sharing Agreement (PSA) arrangements currently in place in Tanzania, Tanzania Petroleum Development Corporation (TPDC) is granted the licences under the Act.
- Under (PSAs) Oil and Gas companies are given contracts to explore for and produce petroleum.

Model Production Sharing Agreement (MPSA)

- TPDC entering into PSA's with the oil companies the terms of the PSA's form the basis of the licences and are negotiable.
- The legislative framework offers considerable flexibility to the Government in negotiating acceptable terms with oil companies.
- Basic terms of PSAs require an oil company to use its risky capital and recover it if there is a commercial discovery where also TPDC is allowed to participate if there is a commercial discovery.

Model Production Sharing Agreement (MPSA)

- The participation is between 5% share and 20%.
- This participation increases TPDC's share by reducing the oil company's share by a proportion which is a factor of TPDC's participation percentage rate multiplied by the oil companies profit oil/gas share rate.
- Tanzania's Model PSA serves as the basic document for negotiations between foreign oil companies, the Government and TPDC. It sets out the terms under which exploration and production can take place.
- A model PSA dated 2013 is used as a basis of negotiation.

V. Institutional and Regulatory Framework

- The Government has a functional institutional framework that facilitates, promotes and governs development of gas and oil explorations and production activities. The Ministry of Energy and Minerals (MEM) is responsible for managing and governing the extractive industry in Tanzania.

Institutional and Regulatory Framework (Cont'd)

- Under MEM, there are three important institutions/agencies for managing this industry namely Tanzania Petroleum and Development Company (TPDC), Tanzania Minerals Audit Agency (TMAA) and Energy & Water Utilities Regulatory Agency (EWURA) each one of these having its legal mandate in governing the industry. While TMAA is responsible for mining activity related financial audits, TPDC and EWURA are responsible for petroleum industry.

Institutional and Regulatory Framework (Cont'd)

- TPDC is a national oil company and has a monopoly in terms of petroleum exploration and development in Tanzania.
- It was created to oversee, among other things, the exploration operations in the country as a licensee holder on behalf of the Government.
- TPDC as a corporate entity has responsibility of spearheading the development of the petroleum industry in the country

VI. Natural Gas Policy

- In pursuit of realizing significant natural gas industry developments and addressing its challenges, the Government has formulated natural gas Policy to provide a comprehensive framework for guiding the development and growth of the industry and that ensures optimal benefits to the Nation and its citizens.
- Tanzania has recently passed the Natural gas Policy, which provides guidance to the mid and downstream activities in the natural gas industry in Tanzania.

Natural Gas Policy (Cont'd)

Key issues addressed in the gas policy:

- Optimizing investment for natural gas infrastructure to serve the domestic, regional and international markets.
- Empowering Tanzanians to benefit from the natural gas industry.
- Supply of natural gas for local consumption.
- Maximizing gains from natural gas export business (Gas To Liquids – GTL, LNG and other products).

Natural Gas Policy (Cont'd)

- Managing revenue arising from natural gas with a view to benefit the present and future generations of Tanzanians.
- Appropriate pricing structures to sustain supply and demand.
- Security of natural gas infrastructure and supply in the domestic market.
- Mainstreaming natural gas resource utilization in other strategic socio-economic sectors.

Natural Gas Policy (Cont'd)

- Addressing needs of local communities
- Improving public awareness on matters pertaining to the natural gas industry
- Increasing transparency and accountability to the public on natural gas activities.
- Sustaining present and future demand for natural gas.
- Seizing opportunities from regional and international cooperation.

Natural Gas Policy (Cont'd)

- The National Gas Policy anticipates the challenges that the prominence of natural gas industry in the economy will pose to the national fiscal management. The Policy states that revenues from the exploitation of natural gas “if not properly managed ... is likely to be a curse instead of a blessing”.
- The Policy further appreciates that natural gas is an exhaustible resource and thus states that “revenues from exploitation of the natural gas resource must be invested strategically in order to generate sustainable returns beyond exhaustion of the natural reserves”.
- The Policy further recognizes that the windfall gain from natural gas will generate high expectations, spending pressures and risks of ‘rent seeking behaviour’. Thus the Policy clearly states that “mechanisms of governance to mitigate spending pressure and preclude rent seeking opportunities; fiscal management to minimize effect of revenue volatilities” need to be put in place.

Natural Gas Policy (Cont'd)

- The National Gas Policy has the following important policy commitments with regard to the management of revenue from natural gas and petroleum;

The Government shall:

- Establish Natural Gas Revenue Fund for development and growth of natural resource industry as well as for national strategic projects for unlock economy and investment for future generation;
- Ensure that natural gas revenue is used appropriately for the benefits of the present and the future generations;
- Ensure that the local communities benefit from the natural gas activities in their respective localities; and
- Ensure that institutional arrangement, legal framework and guidelines to manage the fund are in place.

Conclusion

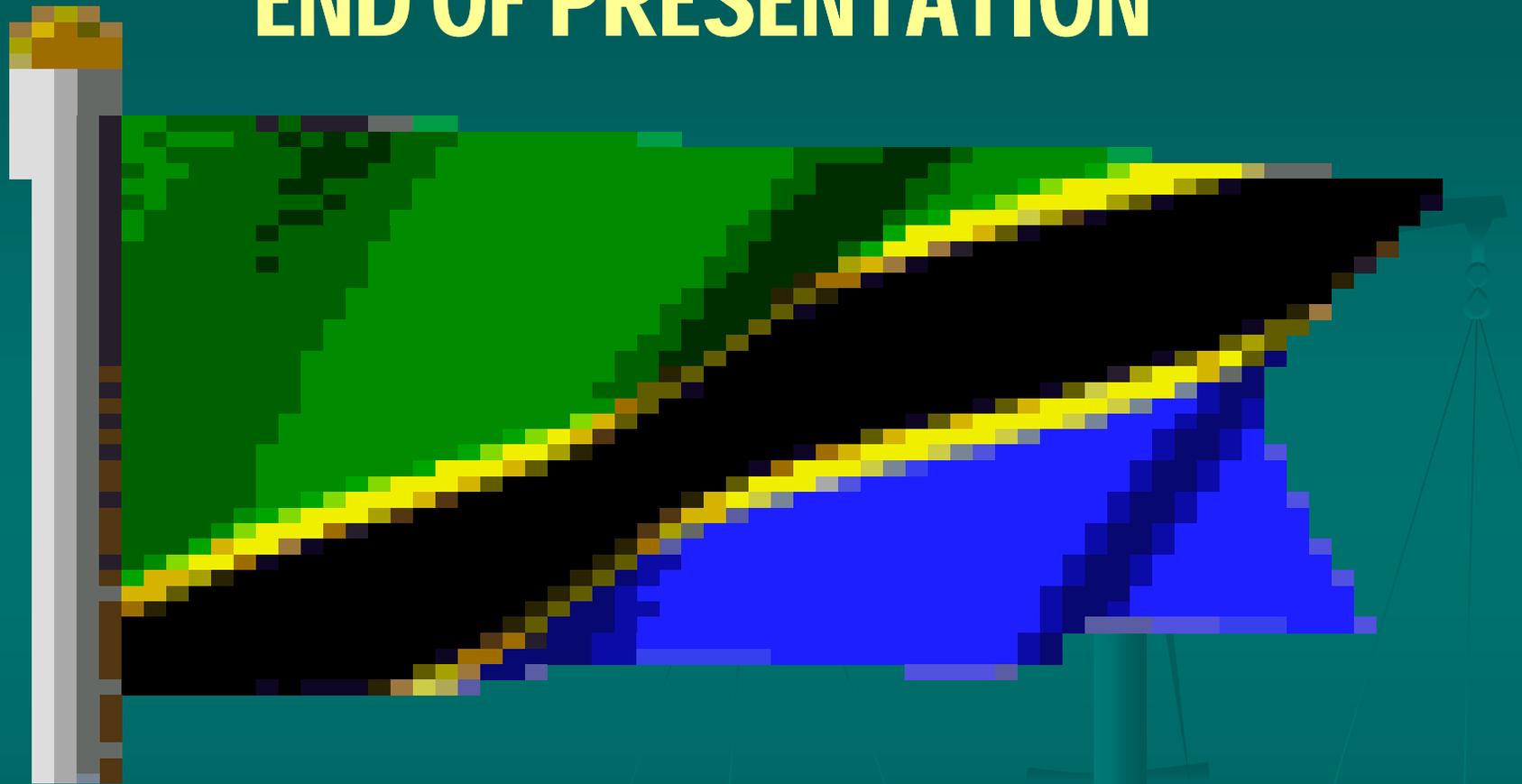
- The discovered reserves of gas and the ongoing explorations are likely to place Tanzanian economy to higher levels of development than it is now.
- We are trying to have in place sound fiscal framework, legal, regulatory and institutional arrangements for the development of the sub sector.
- The Government is working hard to ensure that, the benefits of these natural resources are for the development of the citizens.

Conclusion

To attain all these, the Government is doing all the best to ensure that:

- Promotion of overall governance framework to enhance transparency and accountability.

END OF PRESENTATION



■ THANK YOU FOR YOUR ATTENTION

EXPERIENCES OF IMPLEMENTING THE NATIONAL OIL AND GAS POLICY FOR UGANDA

Presented at the
IMF-EAC Conference on Fiscal Management of
Oil and Natural Gas in East Africa

Ernest N.T Rubondo | Commissioner
Petroleum Exploration and Production Department
UGANDA

Arusha, Tanzania
January 15th, 2014



THE REPUBLIC OF UGANDA
MINISTRY OF INFRASTRUCTURE AND
MINERAL DEVELOPMENT

PRESENTATION OUTLINE

1. **Status of the Oil and Gas Sector in Uganda**
 - Licensing, Discoveries and Capital Investments
 - Planning for Commercialization
2. **The Legal and Regulatory Framework**
3. **The National Oil and Gas Policy for Uganda**
 - Background
 - Progress of Implementation
4. **Opportunities and Benefits**
5. **Challenges**
6. **Concluding Remarks**



COUNTRY OVERVIEW

KEY FACTS ABOUT UGANDA

- Location: East Africa
 - Land area: Approx. 241,038km²
 - Coastline: 1,600km from coast
- Total Population (2012): 36.35 million
 - GDP [Current US\$] (2012): 19.88 billion
 - GDP per capita (2012): US\$ 547
 - GDP growth rate (2013): 5.2%
 - GNI per capita, PPP (2012): US\$1,120
 - Government: Parliamentary Democracy
- Natural Resources: Copper Cobalt, Gold, Limestone, Petroleum, among others
 - Imports: Petroleum products, machinery manufactured goods, chemicals transportation equipment
 - Exports: Coffee, Tea, Cereals, Cotton, Flowers, fish, Gold, Tobacco and Hides among others



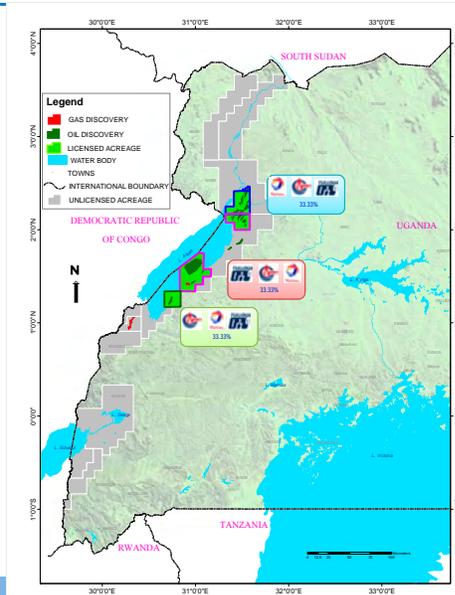
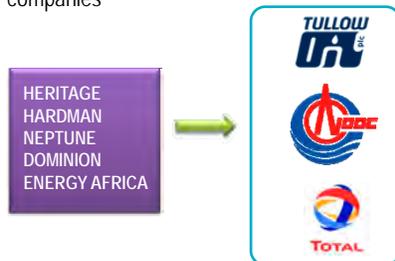
SOURCE: The World Bank



STATUS OF THE OIL AND GAS SECTOR

ACREAGES/LICENCES

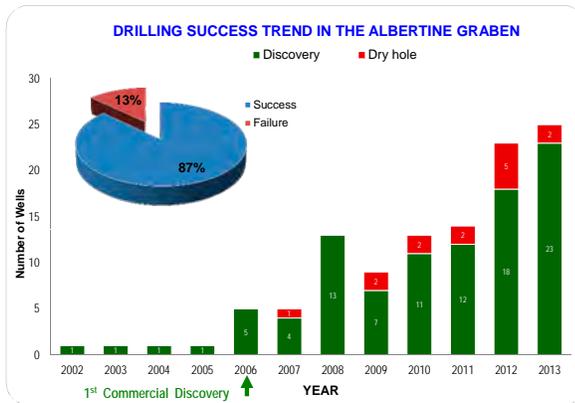
- Four (4) Active Production Sharing Agreements (PSAs)
- 3 License Operators (Tullow, TOTAL and CNOOC)
- Change from small oil companies to super independent and major oil companies





STATUS OF THE OIL AND GAS SECTOR

EXPLORATORY AND APPRAISAL DRILLING



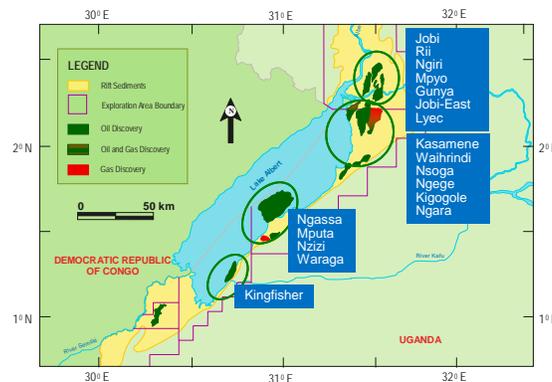
- 112 exploration and appraisal wells drilled in the Albertine Graben to date
- 98 wells encountered hydrocarbons
- 36 exploration wells and 76 appraisal wells
- Drilling success rate of over 85%
- 28 wells have been flow tested
- Crude blend between 23^o – 33^o API with very low sulphur of 0.16wt%. Paraffinic and waxy



STATUS OF THE OIL AND GAS SECTOR

DISCOVERIES

- 21 oil and/or gas fields discovered in the Albertine Graben
- 18 fields taken forward for appraisal
- Appraisal for 10 of the fields completed, and applications for production license submitted
- One Production Licence (Kingfisher) approved during September 2013
- Appraisal of the remaining 8 discoveries still ongoing and is expected to be completed during 2014

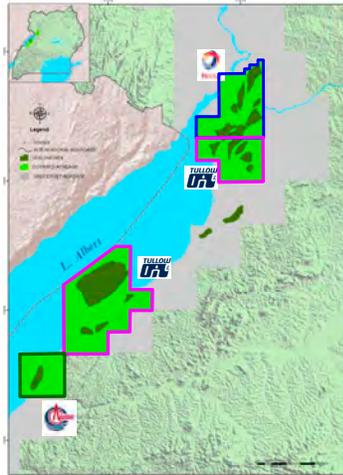


Discoveries in the Albertine Graben (Source: PEPP)



STATUS OF THE OIL AND GAS SECTOR

STATUS OF UPSTREAM ACTIVITIES



Appraisal Areas in the Albertine Graben (Source: PEPD)



TOTAL E&P Uganda B.V

- Submitted application for Production Licence for 1 field
- Appraising of six discoveries in EA1



Tullow Uganda Operations Pty Ltd

- Submitted application for Production License and FDPs for eight discoveries in EA2
- Appraising one discovery in EA2



CNOOC Uganda Ltd

- Field Development Plan and Production License for the Kingfisher Field approved during 2013
- Commencing development

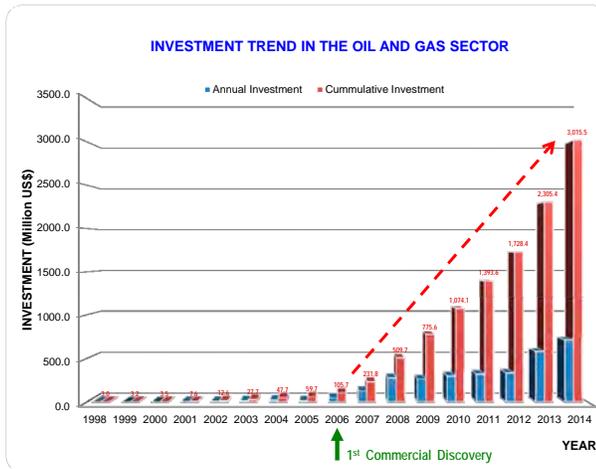
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STATUS OF THE OIL AND GAS SECTOR

UPSTREAM CAPITAL INVESTMENTS



Drilling success trend (Source: PEPD)

- Investment by industry in seismic surveys, exploratory and appraisal drilling is projected to reach a total of US\$3billion by the end of 2014
- Sharp increase in investment after first commercial discovery
- This investment has been important in progressing the country's oil and gas sector in particular and contributing to the economy in general
- Expected to increase significantly during field development, production, development of a refinery and attendant pipelines
- Finding Costs are less than \$1 per barrel. Globally, finding costs range between \$5 and \$25 per barrel

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STATUS OF THE OIL AND GAS SECTOR

PLANNING FOR COMMERCIALISATION

SHORT TERM

- Use of crude oil and gas for power generation
- Low volumes



MEDIUM TERM

- Phased development of a 60,000 BOPD refinery
- Commercialization of gas produced
- Development of a crude oil export pipeline



LONG TERM

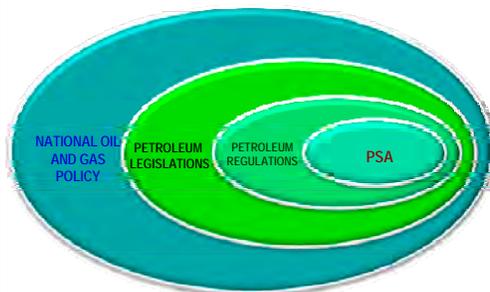
- Potential expansion of the refinery
- Development of petrochemical and energy-based industry

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THE LEGAL AND REGULATORY FRAMEWORK



Available on: www.petroleum.go.ug

POLICY

The National Oil and Gas Policy (2008)

LAWS

- The Petroleum (Exploration, Development and Production) Act, 2013 - *Enacted in April 2013*
- Petroleum (Refining, Conversion, Storage and Transportation) Act, 2013 - *Enacted in July 2013*
- Formulation of a Bill for the management of petroleum revenues (The Public Finance Bill) on going and the Bill is currently in Parliament
- Other relevant statutes and guidelines such as Environment, Wildlife, Water, Income Tax, land

REGULATIONS

- Petroleum (Exploration and production) (Conduct of Exploration Operations) Regulations, 1993
- New Petroleum Regulations expected by June 2014 to address aspects of Exploration, Development, Production, HSE, NC and Midstream among others

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THE NATIONAL OIL AND GAS POLICY

	UPSTREAM OBJECTIVES	FOCUS
ENERGY POLICY (2002)	Promoting the petroleum potential of the country by attracting investment	<ul style="list-style-type: none"> ○ Capacity building and Institutional development ○ Promotion to attract investment in Exploration ○ Licensing and monitoring compliance of licensed companies with existing framework

The National Oil and Gas Policy was developed to comprehensively address issues of exploration, development, production and utilization of the country's oil and gas resources

	KEY ISSUES	PRINCIPLES
NATIONAL OIL AND GAS POLICY (2008)	<ol style="list-style-type: none"> 1. Institutional Development 2. Size of Reserves 3. Oil and Gas Revenue Management 4. Impact of Oil and Gas Activities on the country 5. Contribution of petroleum to Energy mix 6. Investment Promotion 7. National Participation 	<ol style="list-style-type: none"> 1. Using finite resources to create lasting benefits 2. Efficient Resource Management 3. Transparency and Accountability 4. Competiveness and Production 5. Environment Protection 6. Spirit of Cooperation 7. Capacity and Institutional Building

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THE NATIONAL OIL AND GAS POLICY

NOGP(2008)

GOAL

“To use the country’s oil and gas resources to contribute to early achievement of poverty eradication and create lasting value to society”

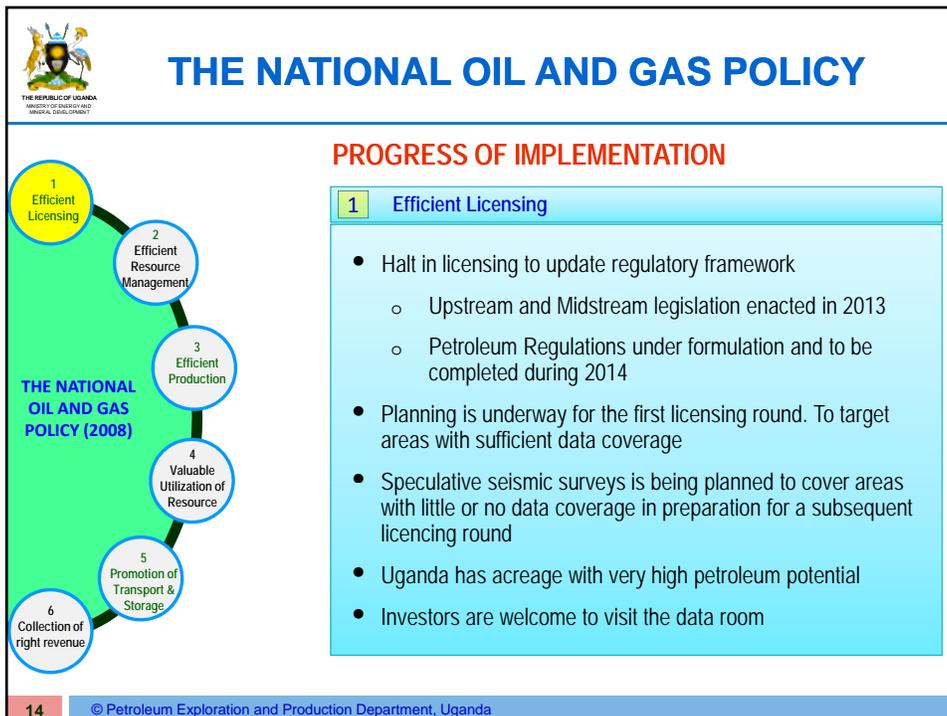
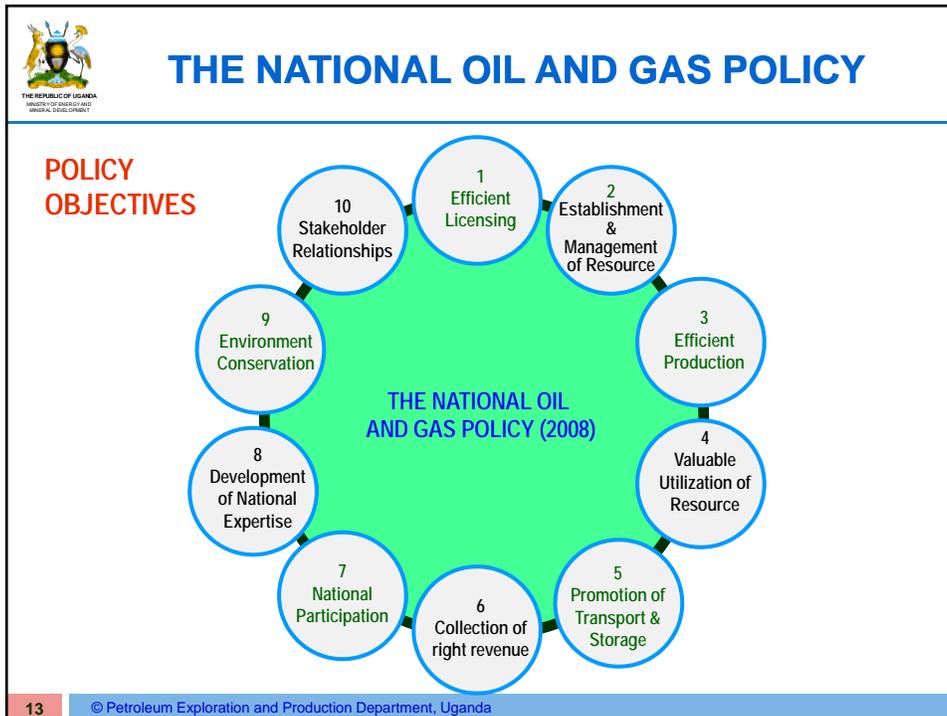
OBJECTIVES

Ten (10) Broad Objectives

KEY POLICY RECOMMENDATIONS

1. The Regulatory Framework to be updated in order to provide a comprehensive legal framework that takes into account both the upstream and midstream aspects, as well as development of an effective petroleum revenue management framework
2. An institutional framework that separates the policy, regulatory and commercial roles through creation of three different institutions

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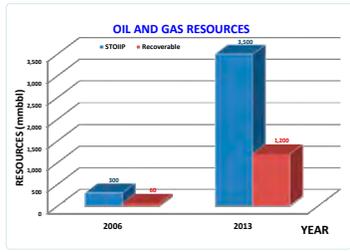
THE NATIONAL OIL AND GAS POLICY

THE NATIONAL OIL AND GAS POLICY (2008)

- 1 Efficient Licensing
- 2 Efficient Resource Management
- 3 Efficient Production
- 4 Valuable Utilization of Resource
- 5 Promotion of Transport & Storage
- 6 Collection of right revenue

PROGRESS OF IMPLEMENTATION

2 Establish and Manage the Oil and Gas Resource



Year	STOIP	Recoverable
2006	200	100
2013	3,500	1,200

- Over 3.5 billion barrels of STOIP established
- Estimated 1.2 billion barrels of recoverable oil equivalent
- Less than 40% of the Albertine Graben has been evaluated

INSTITUTIONAL DEVELOPMENT

MINISTRY OF ENERGY AND MINERAL DEVELOPMENT (PEPD)

Policy, Licensing, Regulations and Commercial

➔

DIRECTORATE OF PETROLEUM (Policy and Licensing)

NATIONAL OIL COMPANY (Commercial and Business Interest of the State)

PETROLEUM AUTHORITY (Regulation of the Oil and Gas Sector)

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THE NATIONAL OIL AND GAS POLICY

THE NATIONAL OIL AND GAS POLICY (2008)

- 1 Efficient Licensing
- 2 Efficient Resource Management
- 3 Efficient Production
- 4 Valuable Utilization of Resource
- 5 Promotion of Transport & Storage
- 6 Collection of right revenue

PROGRESS OF IMPLEMENTATION

3 Efficient Production



Extended Well Testing of some of the discoveries

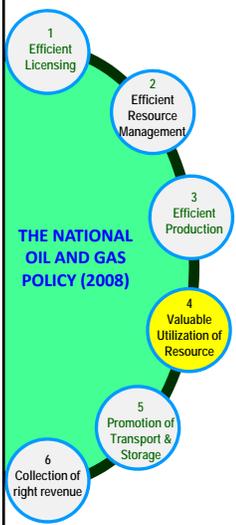
- Extended Well Testing (EWT) programme is being undertaken as part of the appraisal of the discoveries in order to adequately support planning for production
- Over 40,000 barrels of test crude has been produced and is currently stored on site
- Review of the submitted Applications for Production licences and FDP/PRR with a view to ensure adoption of optimum production strategy

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THE NATIONAL OIL AND GAS POLICY



THE NATIONAL OIL AND GAS POLICY (2008)

PROGRESS OF IMPLEMENTATION

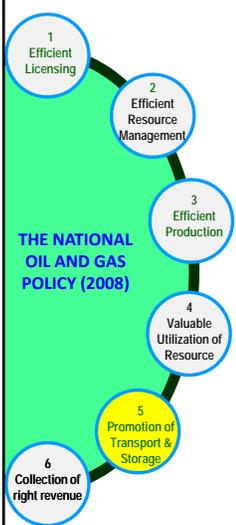
4 Valuable Utilization of the Resources

- Planning for the development of a green field refinery in the country is ongoing
- Feasibility Study completed in 2010 and recommendation of the Study was approved by cabinet in 2011.
- The refinery will be developed on PPP with Government holding 40% and the Lead Investor holding 60%.
- The refinery capacity will be 60,000bopd, built in two phases of 30,000 bopd each.
- A Transaction Advisory Team led by Taylor De-Jongh contracted in 2012
- The Environmental Baseline study has been concluded
- The process of selecting a Lead Investor commenced in October 2013 with a Request for EOI put out internationally and prequalified companies announced in December 2013
- The Resettlement Action Plan for the people on a 29km² land for the refinery development and attendant infrastructure completed in 2013 and compensation/resettlement has commenced
- The first train is expected to come on stream in 2017/18 and the second train 2 years later

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THE NATIONAL OIL AND GAS POLICY

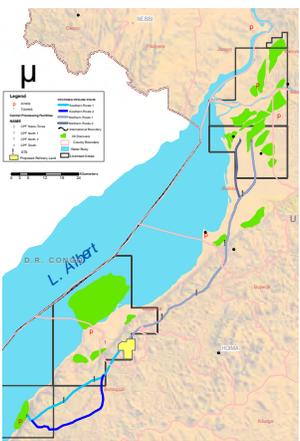


THE NATIONAL OIL AND GAS POLICY (2008)

PROGRESS OF IMPLEMENTATION

5 Promotion of Suitable Transport and Storage Solutions

- Planning for the crude pipelines to the refinery and pipelines to evacuate the products from the refinery has commenced
- Petroleum Transportation and Storage Study for crude and products has been undertaken and results are under consideration
- Infrastructure to support development of the refinery and the oil fields is being put in place. This includes roads and an airport

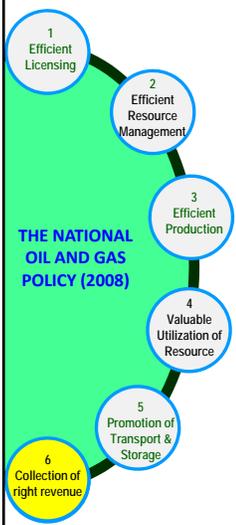



Kairo-Tonya Road under Construction

18
© Petroleum Exploration and Production Department, Uganda



THE NATIONAL OIL AND GAS POLICY



PROGRESS OF IMPLEMENTATION

6 Collection of the Right Revenue

- The Oil and Gas Revenue Management Policy developed
- The Public Finance Bill 2012 to address petroleum revenue management presented to Parliament

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THE NATIONAL OIL AND GAS POLICY

PROGRESS OF IMPLEMENTATION

7 Optimum National Participation

- A study on the opportunities and challenges for **Ugandans' participation** in the oil and gas sector was concluded during 2011 and a strategy/plan for its implementation is being developed
- The Study makes recommendations for necessary policy, institutional and regulatory reforms to enhance competitiveness of the private sector, training requirements and educational framework
- Some of the recommendations from the study are currently being implemented through:
 - Streamlining the procurement procedures for oil companies
 - Requirement to develop Nationalisation Plans for expatriate positions
 - PSAs provide for State Participation at 15% to 20%
 - Several aspects of national participation have been legislated
 - A National Content Policy and Plan is being developed to further guide the Sector on National Content Development

The Plan and Policy will mainly focus on: Institutional development, Enterprise development, Capacity building, Facilitating national participation, and Monitoring and Evaluation



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THE NATIONAL OIL AND GAS POLICY

PROGRESS OF IMPLEMENTATION

8 Development and Maintenance of National Skills and Expertise

- Training courses at Universities and technical institutions focusing on petroleum industry have been introduced at MUK starting 2009 and UPIK during 2010 for professional and blue collar training respectively
- Comprehensive Study on skills requirement for the petroleum value chain due to be commissioned
- Realization of increased training of Ugandans in the oil and gas profession abroad by both public and private players



THE NATIONAL OIL AND GAS POLICY

PROGRESS OF IMPLEMENTATION

9 Environment Conservation

- Close monitoring of the environment and biodiversity continuously undertaken by a multi-Institutional monitoring team working with communities
- ESIA's undertaken
- An Environment Sensitivity Atlas developed
- Strategic Environment Assessment was undertaken and is currently under review
- Oil Spill Contingency Plan, Hazardous Waste Management Plan under preparation
- Guidelines for waste management and operations in protected areas are in place

Neo-web plastic membrane on temporary road as opposed to conventional road materials





THE NATIONAL OIL AND GAS POLICY

PROGRESS OF IMPLEMENTATION

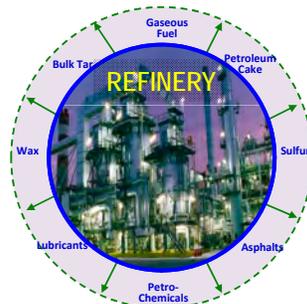
10 Mutually Beneficial Relations

- A communication Strategy for the oil and gas sector was developed in 2011 and its implementation is ongoing through:
 - Engagements with Communities, Civil Society, Parliament and other stakeholders
 - Participation in Radio and Television talk shows
 - Pro-active Media Relations
 - Development of IEC Materials
 - Website: www.petroleum.go.ug
- Consultations and dialogue with stakeholders continues.



OPPORTUNITIES AND BENEFITS

- Increased foreign investment and economic rating for the country
- Revenue Generation to support service delivery
- Infrastructure Development: *Improved road networks and access to previously remote areas*
- Technology Transfer and the opportunity to develop a highly skilled man power in oil and gas related disciplines
- Corporate Social Responsibility Initiatives: *Support to Health, Education and Social Enterprise*
- Industrialization: Stimulation of other industries such as the manufacturing sector, petro-chemical industry which will have spill-over benefits
- Improved Land Use Planning for the areas with potential for petroleum production





CHALLENGES

HUMAN RESOURCES

Regulation of the sector requires a significant number of personnel with diverse technical expertise. Government has undertaken some capacity building over the last 20 years or so and this has necessitated enormous financial resources from the Government

STRONG INSTITUTIONAL FRAMEWORK

A strong institutional framework is required to maximize the returns from the resources. The level of readiness of the different relevant institutions is differing while some institutions are yet to be established

LEGAL AND REGULATORY FRAMEWORK

- Development of legislative framework takes time. While the Policy was approved in 2008, the Upstream and Midstream Legislations to operationalize the Policy were enacted in 2013. The updated Regulations that are required to implement the new Laws is still under development.
- It is a challenge to regulate and monitor with out dated regulatory framework
- The robustness of the legal and regulatory framework for the petroleum sector in Uganda will be put to test when production commences and enhancement to the legislations is expected with the experiences that will accrue as the industry develops



CONCLUSIONS

- The initial exploration efforts in Uganda have been very successful and appraisal of the discovered fields is now being concluded. This effort has led to the discovery of 3.5billion barrels of oil equivalent in place registering a drilling success rate of over 85% and a finding cost of less than US\$1 per barrel
- Discussions on how to commercialize the discovered oil and gas resources in the country have been on going between Government and industry. This discussions have progressed significantly
- The National Oil and Gas Policy for Uganda was developed through an extensive consultative process and this is forming the foundation for the development of the sector. The guiding principles of the Policy are being followed in developing a legal and regulatory framework for the sector
- Both the resources and the revenue streams from these resources need to be managed to ensure that they are intergenerational
- Investment in the sector is expected to increase significantly especially during development and production
- Uganda continues to welcome investment in its oil and gas sector. The investment environment remains very attractive and the country attracted the highest FDI of US\$1.7 billion in East Africa during 2012



THANK YOU

FOR YOUR ATTENTION

COMMISSIONER
Petroleum Exploration and Production Department
Ministry of Energy and Mineral Development
(UGANDA)

Email: pepdebb@petroleum.go.ug; Website: www.petroleum.go.ug



**EAC-IMF Workshop on Fiscal Management of Oil and Natural Gas in East Africa:
What Have We Learned and What Next**

By Esther Koimett

Investment Secretary, The National Treasury, Kenya

I. Designing and implementing the petroleum fiscal regime (Session 1, 2, and 4)

Lessons Learned:

1. Regional and country overviews of status of petroleum sector issues including transparency/disclosures on fiscal regimes and revenues. Efforts made by Tanzania to implement EITI were noted.
2. The inter-linkages between key issues and policy choices that governments face in managing the fiscal impact of NR/O&G development.

Where to Next/Way forward:

1. Integrated reviews of the legal, regulatory and fiscal regimes relating to the industry in consultation with key stakeholders (KRA, related ministries and the National Treasury) before policy decisions are made.
 - a. review of recommendations by the IMF and World Bank jointly so as to adopt international best practice.
 - b. joint future reviews of the need for amending the laws as they are implemented and gaps are established.
 - c. Current review of various tax treaties so as to address the issues that may impact on the extractive industries (to avoid erosion of gains made in reviewing the other legal, regulatory and fiscal frameworks).
2. Fast-tracking the review of legal, regulatory and fiscal framework so as to seal all loopholes especially the alignment of PSCs and income tax laws.
3. Consensus that EAC countries invest in building capacity for design and evaluation of the impacts of existing/proposed fiscal regimes for the sector.

4. EAC states advised to take efforts towards becoming signatories to the EITI and meeting the obligations under the mechanism. The high levels of EITI disclosure will enable the region meet the international practice even for Kenya whose Constitution requires agreements granting rights to natural resources to be ratified by the National Assembly (thereby becoming public documents).

II. Issues in Petroleum Revenue Administration (Session 3)

Lessons & Where to Next:

1. Organizational Issue: To address current/potential fragmentation of tax/revenue administration (KRA versus key government ministries of Energy/Petroleum and Mining), EAC/Kenya will rationalize (re-look at) ongoing reforms to ensure an appropriate balance of responsibilities (i.e., policy, industrial regulation, and revenue administration)
2. Strengthening linkages with other relevant ministries, parastatals and government agencies. These include:
 - a. establishment of the an inter-ministerial agency/unit/committee for approval and auditing of costs as they occur and for consultation and monitoring developments in the industry
 - b. establishment of a data repository where all relevant industry data can be shared amongst stakeholder government MDAs. This will facilitate seamless sharing of information and provide a wholesome/comprehensive view of the taxpayer.
 - c. strengthening membership of NAFFAC.
3. Capacity building across all sectors especially audit of costs, lawyers, economists, tax audits to enable them understand industry practice. This can be through: workshops, specialized training, and exchange learning/missions to sister institutions.
4. Support for the establishment of structures within the tax administration to manage/enhance compliance (focusing on extractive industries)
 - a. establishment and staffing of a special unit
 - b. updating of skills for the staff deployed

III. Macro-fiscal policy frameworks and anchors (Sessions 5 & 6)

Three key lessons/way forward:

1. Coordination between monetary and fiscal policy frameworks is critical in ensuring macroeconomic stability and appropriate fiscal stance for achieving growth targets consistent with development objectives.
2. EAC partner states should take the following steps towards judicious fiscal management of NR revenues: (a) understand profiles of production and develop forecasts of O&G revenue profiles; (b) develop benchmarks for sustainable management of NR resources; (c) choose an appropriate fiscal anchor; (d) develop buffers (resource funds) for mitigating against volatilities in revenues; and (e) scale up economic growth. On choice of a fiscal anchor, it is proposed that the EAC economies consider adopting a flexible PIH¹-based non-petroleum primary balance with front-loaded investment.
3. Managing Expectations over NR revenues is critical. Three key lessons learned in this area are: (a) the need to develop and implement a robust, comprehensive communication strategy with key stakeholders (communities, media and civil society); (b) build a social contract with citizenry wherein there is transparency and accountability through institutions (such as the strict provisions in the Kenya constitution requiring full disclosure on PSCs and revenue proceeds to Parliament and public); (c) delivery of results (i.e., prudent management of resources and efficient delivery of programmes, projects and services)

IV. Implementing Institutional Reforms (Sessions 7&8)

Lessons Learned:

1. Pros and Cons of setting up resource revenue funds as well as the planning for the use of such funds.
2. The necessity of integrating resource revenues into treasury operations and importance of accountability and transparency in managing and reporting on the use of the funds.

¹ permanent income hypothesis.

What Next:

1. EAC (Kenya) ministries of Finance (The National Treasury) should take a decision on coordination of revenue collection and managing resource funds;
2. The need to ensure that public financial management legislation provides for rules for capturing petroleum resource revenues in the budgeting and expenditure (MTEF) decisions.

V. Regional Fiscal Dimension of Petroleum Development (Session 9)

Lessons Learned and Way Forward:

1. Advisable to separate fiscal regime for petroleum transit and transportation infrastructure from that for upstream operations.

What Next

As one of the coastal countries Kenya will need to ensure that development of Pipelines and other transport modes are not done in a manner that undermines the exploitation of natural resources of our neighbours.

The Role of the EAC is important in creating the necessary frameworks for these regional infrastructure

CONCLUSION:

We thank the EAC Secretariat and the IMF Fiscal Affairs and African Affairs Departments for organizing this productive workshop on fiscal management of oil and natural gas in the East African region. We have exchanged experiences on the challenges we face, have been exposed to emerging sound practices for fiscal management of natural resources, and received practical guidance on how to adapt the international best practice to circumstances in our respective EAC member states. Thank you so much (Asanteni sana!)

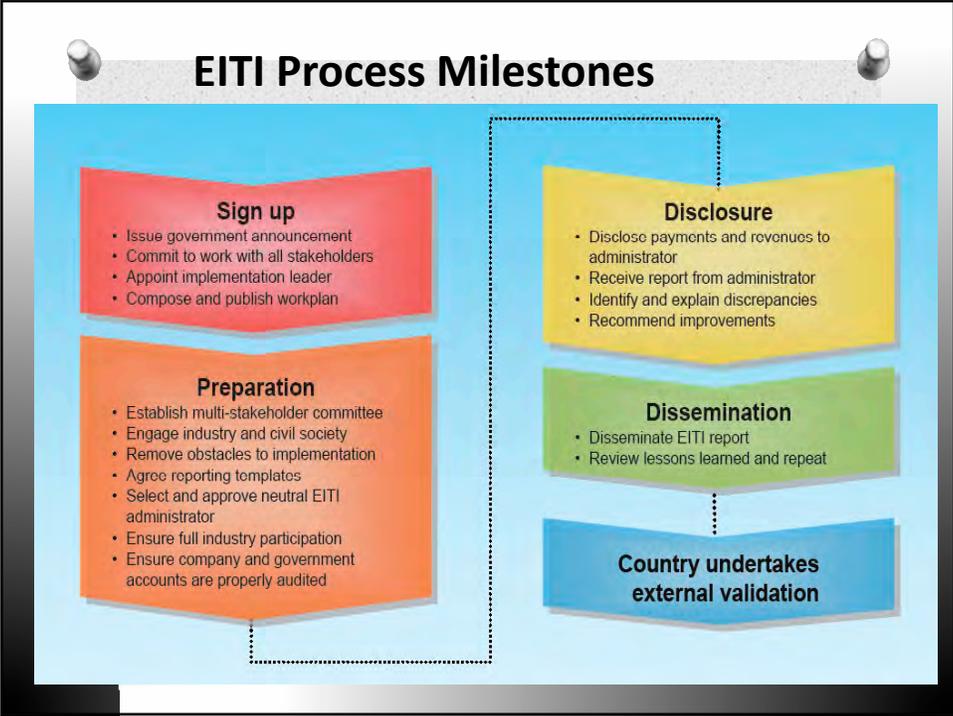


Implementing EITI in Tanzania

Innocent Lugha Bash
Economist, Tanzania-EITI Secretariat
15.01. 2014

Structure of Presentation

- o How EITI works
- o Why EITI Initiative is Important in the management of EIs
- o Findings of TEITI Reports
- o Emerging policy-related issues based on TEITI Reports
- o The End



**Why EITI Initiative is Important... EIs are
Corruption Prone Sectors**

Getting serious about corruption...



EIs Corruption Prone...In What Ways?

- o the high level of rents
- o a concentration of revenue flows
- o technical complexities of the sector
- o easily formed natural monopolies
- o Country with weak public sector capacity

Promoting Transparency...Countering Corruption

- o EITI, OGP, NRC-RWI, PWYP, TI, APP, AMV, G8, OECD with G20, US Dodd-Frank Act, EU Legislation
- o 2 defences against corruption: transparency and effective legal system (P. Collier)
- o Permit transparency to counter corruption and illicit financial flows

EI's Corruption Prone...Studies Show

- o The lack of transparency has adversely affected the development of resource rich-LIC
- o Africa loses more through illicit outflows (USD 63.4 bn) than it gets in aid and FDI (USD 62.2 bn) ---APP 2013
- o African Progress Report 2013, Paul Collier, J. Stiglitz, Tax Justice Network, ICTD, etc
- o Development Financial Institutions

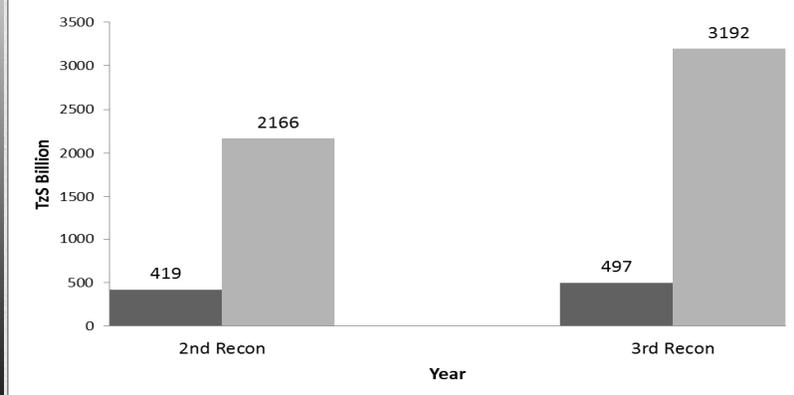
Problems Associated with Extractive Industries

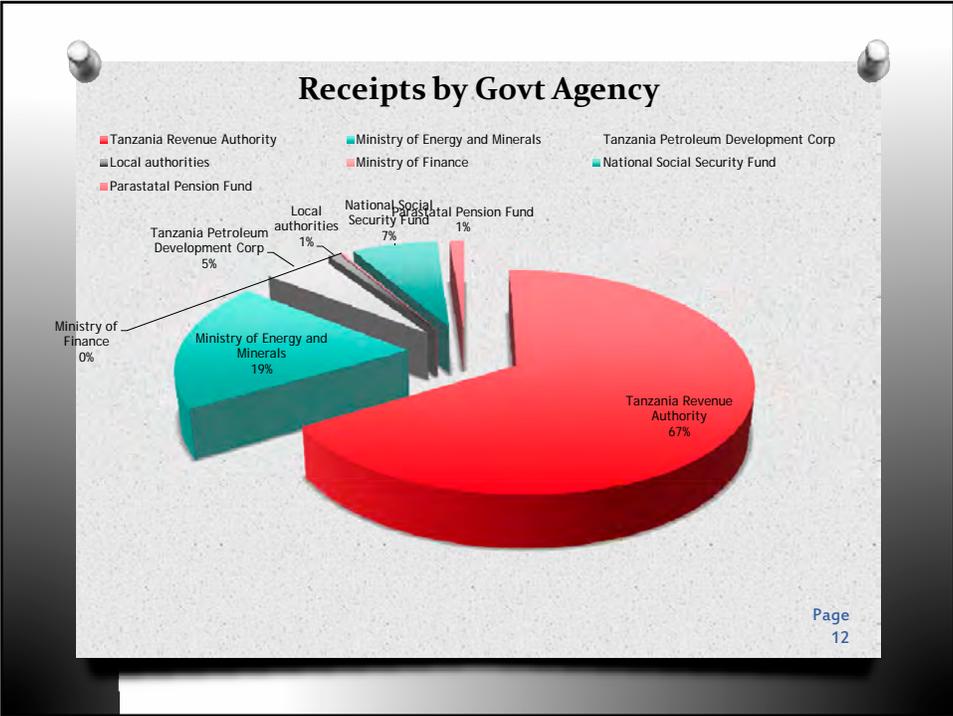
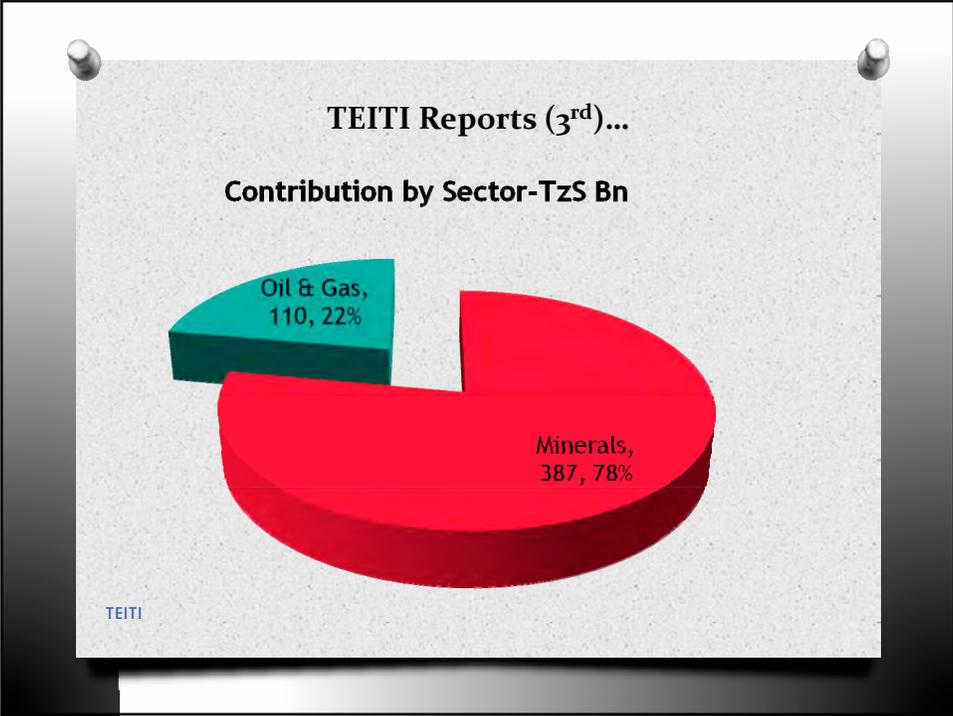
- o Tax evasion and avoidance, secrecy of contracts and beneficial ownerships;
- o Lack of coherent national/ regional strategies;
- o Short-term calculations rather than long-term strategy;
- o Weak policies on local content, job creation, and linking EIs effectively to national economy;
- o Export-oriented rather than value-added within countries;
- o Externally driven transparency agenda

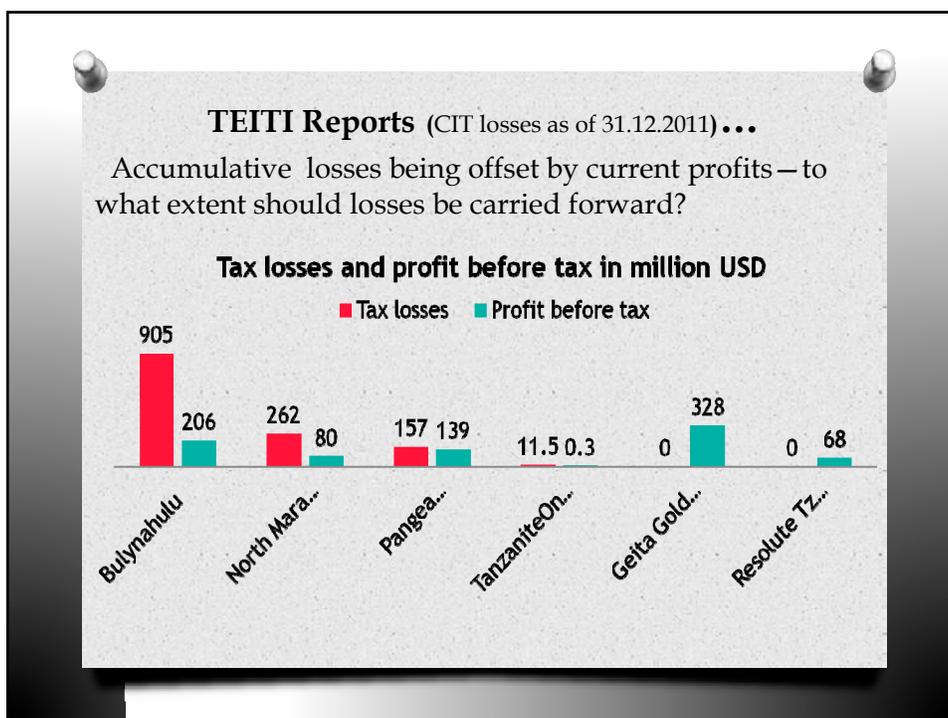
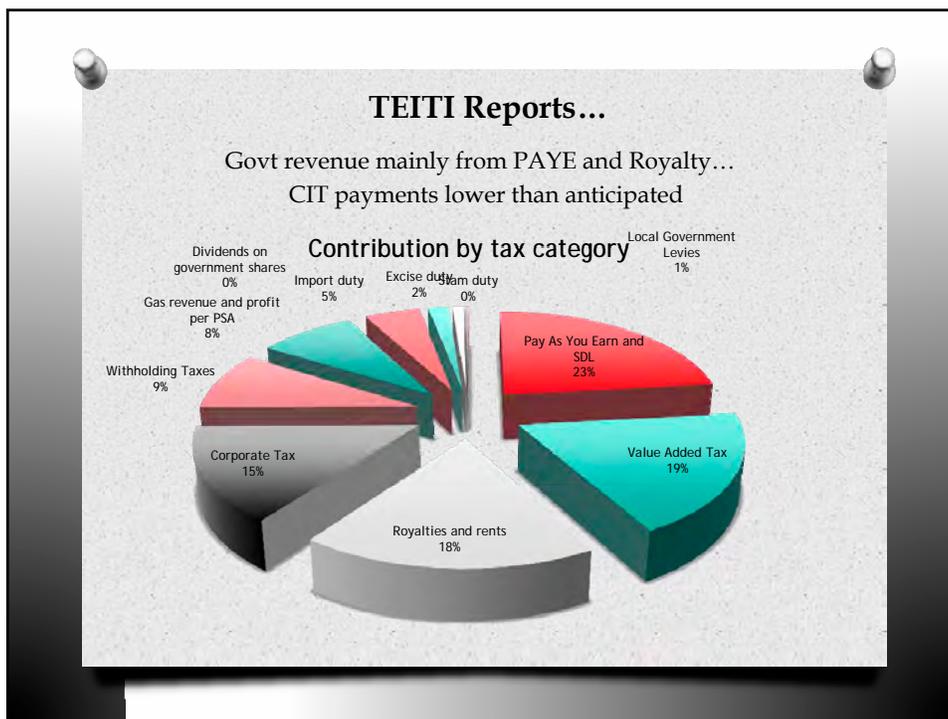
Findings of TEITI Reports

(2nd & 3rd Reports compared) FY (2009/10 vs. 2010/11)

Sales Exports by Companies Vs. Government Revenue





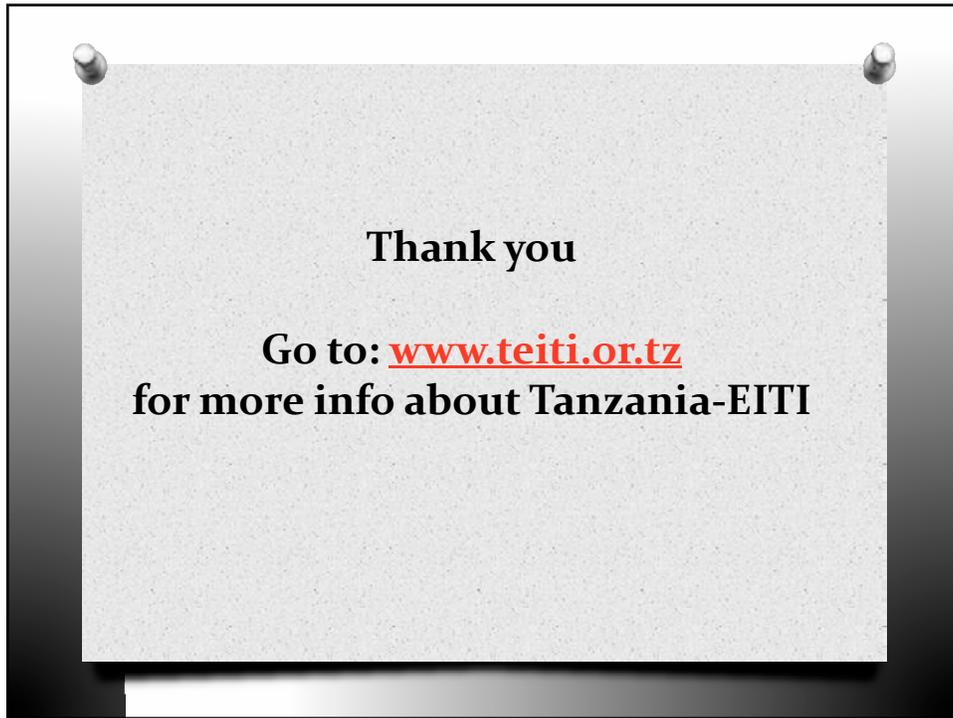


Emerging Policy-Related Issues from TEITI Reports

- Test of mining regime robustness (rather limited progressivity):
 - higher Govt returns resulting from price? **No.**
 - Higher Govt returns resulting from lower costs? **No.**
 - Govt revenues increased less when commodity prices skyrocketed...
- Capex ...15% additional Cap. Allowance effects loss claims
- Generous tax relief/exemptions?
- Stabilization clauses...for the entire mine life?

What could optimize expected EIs tax collection

- Increased transparency in extractive industries fiscal management;
- EIs fiscal design: Including a progressive element to capture super profits while encouraging cost saving and production
- A provision for periodic review of contracts
- Readily capable of handling technical audits of Capex, Opex, capturing transfer pricing and mispricing techniques



FISCAL MANAGEMENT OF OIL AND NATURAL GAS IN EAST AFRICA

East African Community and International Monetary Fund Workshop

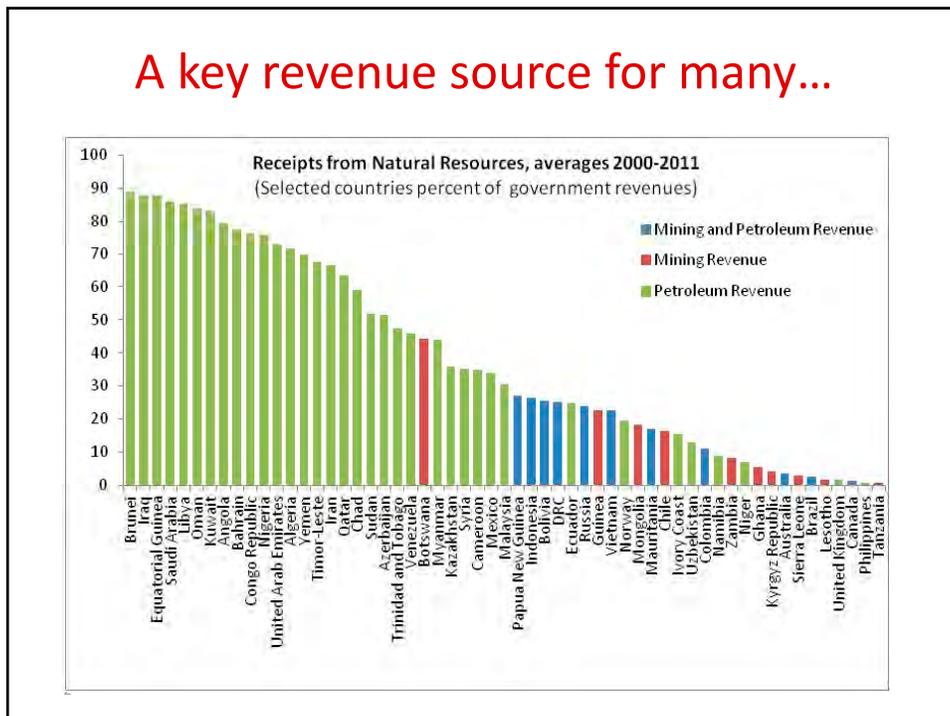
January 15 – 17, 2014
Arusha, Tanzania

**PETROLEUM FISCAL REGIMES—
KEY DESIGN ISSUES**

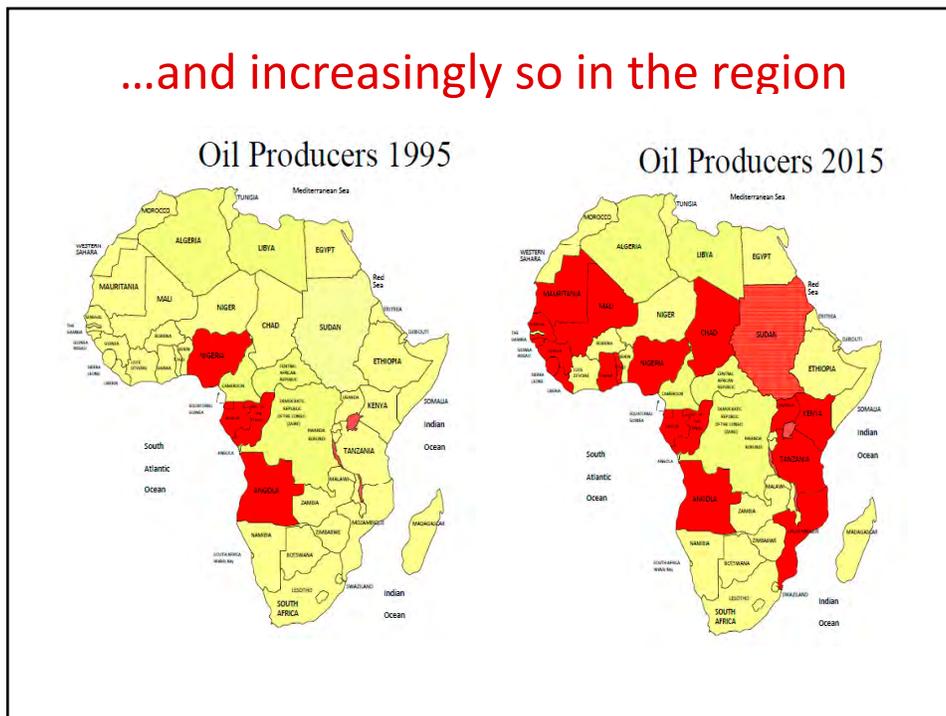
Michael Keen
International Monetary Fund

Managing Natural Resource Wealth Topical Trust Fund





...and increasingly so in the region

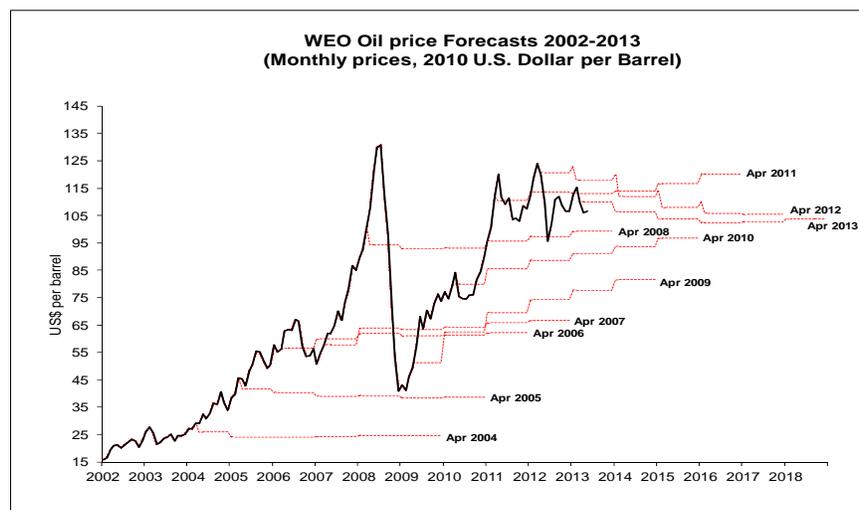


Overview

- Why a distinct fiscal regime for petroleum?
- What are we trying to do?
- What fiscal tools do we have?
- How can we best use them?
- Concluding

WHY A DISTINCT FISCAL REGIME FOR PETROLEUM?

- Substantial rents
- Pervasive uncertainty, esp (but not only) prices



- Asymmetric information
- High sunk costs, long production periods
- Extensive involvement of multinationals in some countries...and of SOEs in others

Few of these considerations are unique to resources—they're just bigger. What is unique is:

- **Exhaustibility**—Revenues are the transformation of finite assets in the ground into other assets, linking to the design of the macroeconomic framework

7

WHAT ARE WE TRYING TO DO?

- **Maximize PV** of net government revenues
- **Timing** of receipts
- **Riskiness** of receipts
 - Many developing countries may be less able to bear risk than large MNEs...
- **“Progressivity”**
 - Meaning? Responsiveness to current prices?
 - But more progressive means more risk
- **Easy administration** (for authorities) **and compliance** (for taxpayers)

9

WHAT FISCAL TOOLS DO WE HAVE?

Three main fiscal schemes (sometimes blended)...

- **Contractual**, including production sharing or service contracts
 - Main form in EAC
- **Tax and royalty**, with licensing of areas
- **State ownership or participation**

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These can be made fiscally equivalent

For instance:

- **Cost recovery limit under PSA equivalent to a royalty**
 - E.g. With government share at 50%, limiting cost recovery to 80% of revenue is equivalent to a royalty of $(0.5) \times (1 - 0.8) = 10\%$
- **A tax on cumulative cash flows levied at a higher rate at higher realized rates of return is equivalent to a PSA with government share increasing in same way**

A wide range of possible instruments

- **Explicit rent taxes** (e.g. PSA on cash flow profits)
 - Non-distorting in principle, if take proper account exploration stage
 - Many forms, with different timing of receipts
- **Royalties**
 - Distort extraction (and, hence, exploration) decisions
 - Can be used in principle to control extraction path
 - Revenue from day 1

13

- **Bonuses** (with bidding)
 - More common in petroleum than mining—why?
- **Corporate income tax**
 - To ensure equity income not favorably treated
- **State participation**
 - Can help resolve asymmetric information
 - But potential governance issues

14

HOW CAN WE BEST USE THEM?

Evaluation of alternatives is essential...

Two approaches:

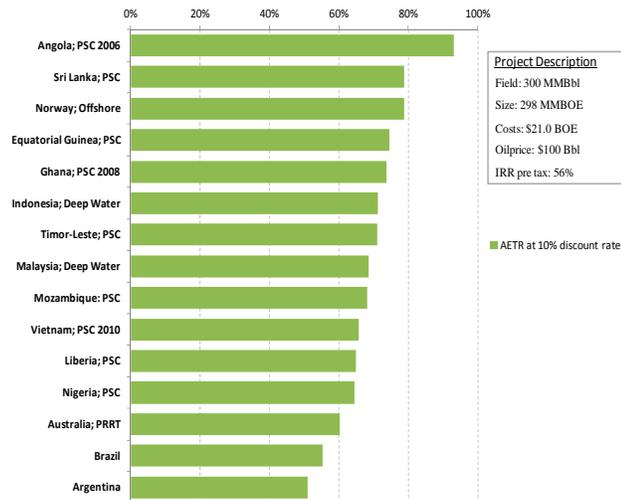
- **Model effects** on exploration, development, and extraction
- **Scenario analysis** – the FARI modeling system

Use indicators related to objectives and criteria, e.g.

- Average effective tax rate
- Progressivity in prices

FARI: Simulated Petroleum Field

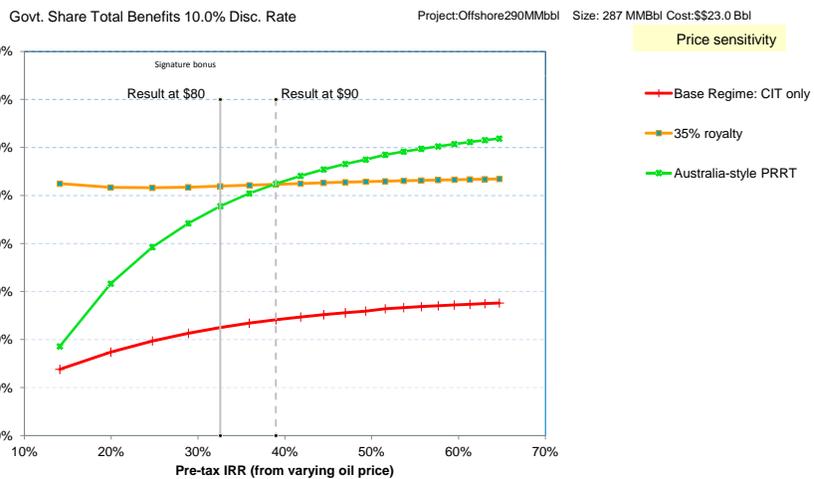
Average Effective Tax Rates for Selected Regimes



17

FARI: Assessing "Progressivity"

Tax share response to price changes



18

Fiscal regimes for EIs vary widely

- Simulations suggest government shares of 65 to 85 percent in petroleum—but collection data suggest lower in practice
- For mining, simulated shares are lower: 65 to 85 percent
- Achieved shares below this are cause for concern, or regret

An attractive framework

Country circumstances require tailored advice, but generally within a framework that combines

- A royalty on gross revenue
- A tax targeted explicitly on rents (and thus on the achieved results of extraction)
- Together with normal corporate income tax
- Bonus-bidding may have a role in promising environments

Merits of this are:

- Revenue from day one of production (and earlier)
- Government's revenue rises as rents increase
- Inclusion of rent taxes can reduce pressures to renegotiate or unilaterally change the rules
 - But processes for review and revision may be needed

INTERNATIONAL TAX ISSUES

- Large sums at stake
 - Africa Progress Report
 - Including through incentives
- Many aspects
 - Transfer pricing not the only issue
 - Indirect transfers of interest
 - Care needed with treaties
- Payment of tax from government share can provide some protection

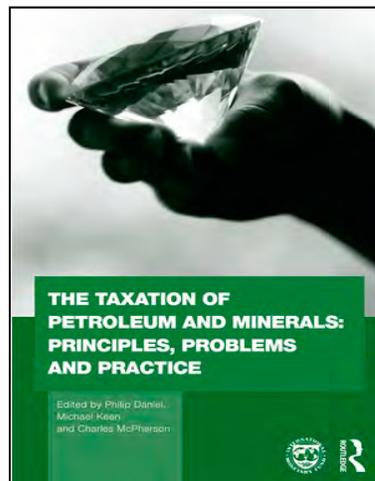
CONCLUDING

More detail to follow, and in

- Board paper on “Fiscal Regimes for the Extractive industries”
<http://www.imf.org/external/np/pp/eng/2012/081512.pdf>

Forthcoming:

- Resource tax administration handbook
- International tax issues for the extractive industries



Available in IMF eLibrary at
www.imf.org



**FISCAL MANAGEMENT OF OIL AND
NATURAL GAS IN EAST AFRICA**

East African Community and
International Monetary Fund Workshop

**January 15 – 17, 2014
Arusha, Tanzania**

Natural Gas: Fiscal Regime Challenges

Lex Huurdeman, The World Bank



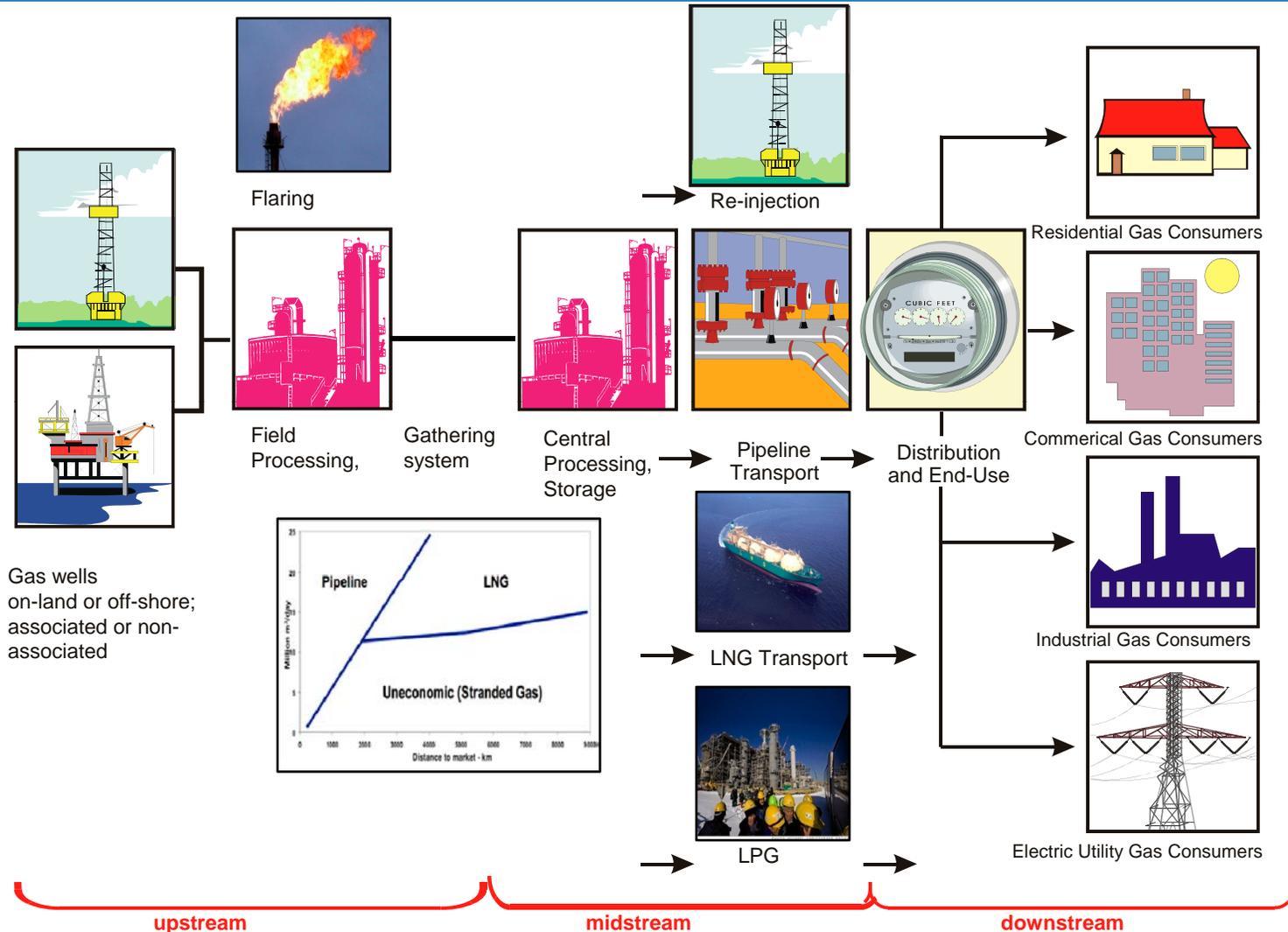
Managing Natural Resource Wealth Topical Trust Fund

Differences between Oil and Gas Developments

- Value of natural gas is usually lower than that of oil on equivalent energy content basis
- Gas markets are often distant or absent
- Transportation costs of natural gas are higher and front-loaded
- Contractual gas production rates are generally less flexible
- Valuation of gas for contractual and fiscal purposes is more complex

Natural gas developments require larger discoveries and a “Full Value Chain Approach” to become commercial

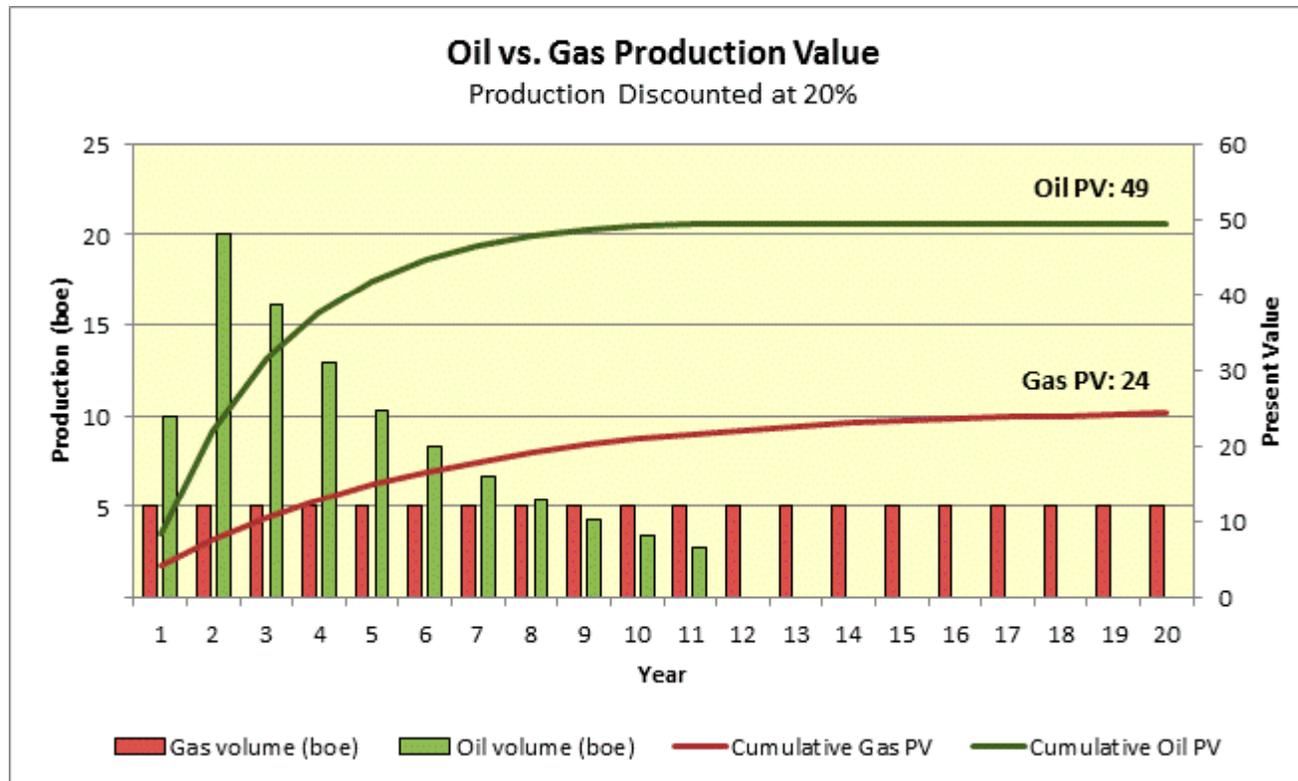
Gas Monetization requires simultaneous investment



The host government has a vital part to play in maintaining investor confidence and project momentum.

Economics of Gas versus Oil Development

Production Profile of gas often linked to LT contracts



example adapted from G. Kellas, Natural Gas: Experience and Issues (2008).

The Present Value of a development is not just determined by reserves but also by the timing of revenues

Economics of Gas versus Oil Development

Timeline of a gas developments in Sub Saharan Africa

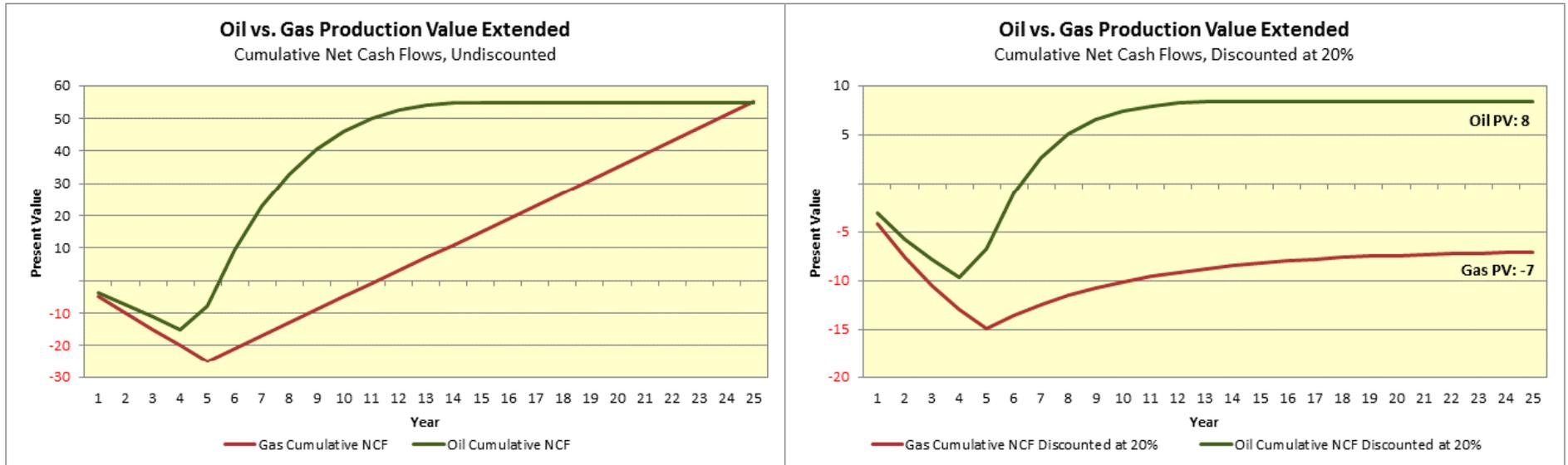
Field/ license	Country	Oil/ Gas/ Condensate	Reserve Size TCF	Year of Discovery	Start of Production	Years to Production	Comment
Calub/ Hilala	Ethiopia	G/C	3.2	1973 ,1974	TBA	40+	Stranded
Songo Songo	Tanzania	Gas	1.0	1974	2004	30	Gas to power
Mnazi Bay	Tanzania	Gas	0.7	1981	2006	25	Gas to power
Kiliwani N	Tanzania	Gas	0.03	2008	TBA	6+	Infrastructure constrained
Mkurunga	Tanzania	Gas	TBA	2007	TBA	7+	Infrastructure constrained
Blocks 1,3,4	Tanzania	Gas	12.6	2010-2	TBA	10?	LNG
Block 2	Tanzania	Gas	10-13	2012	TBA	10?	LNG
Pande/Temane	Mozambique	Gas	3	1961,1967	2004	40	Export to SA
Block 1	Mozambique	Gas	50	2010	2018	8	LNG
Block 4	Mozambique	Gas	60	2010	2018	8	LNG
Logbaba	Cameroon	Gas	0.1	1955	2012	57	Pipeline
Etinde	Cameroon	G/C	0.5	1960s	TBA	50+	Fertilizer
Kudu	Namibia	Gas	1.0	1974	TBA	40+	Stranded
Alba	EG	G/C	5.0	1986	1996	12	Substantial initial flaring
Aseng	EG	G/C	0.4	2007	2011	4	Initial gas recycling
Jubilee	Ghana	G/C	0.5	2007	2010	3	Initial gas recycling

Source: Kenya Review of Legal and fiscal Framework, WBG, Hunton & Williams, Challenge Energy (2013)

The extended period between a gas discovery and start of production is often caused by “lack of market” and lack of infrastructure.

Economics of Gas versus Oil Development

Gas Developments have higher upfront transportation costs



example adapted from G. Kellas, Natural Gas: Experience and Issues (2008)

Gas project economics are frequently much less attractive for the Investor than oil projects

Fiscal Options for Production Sharing

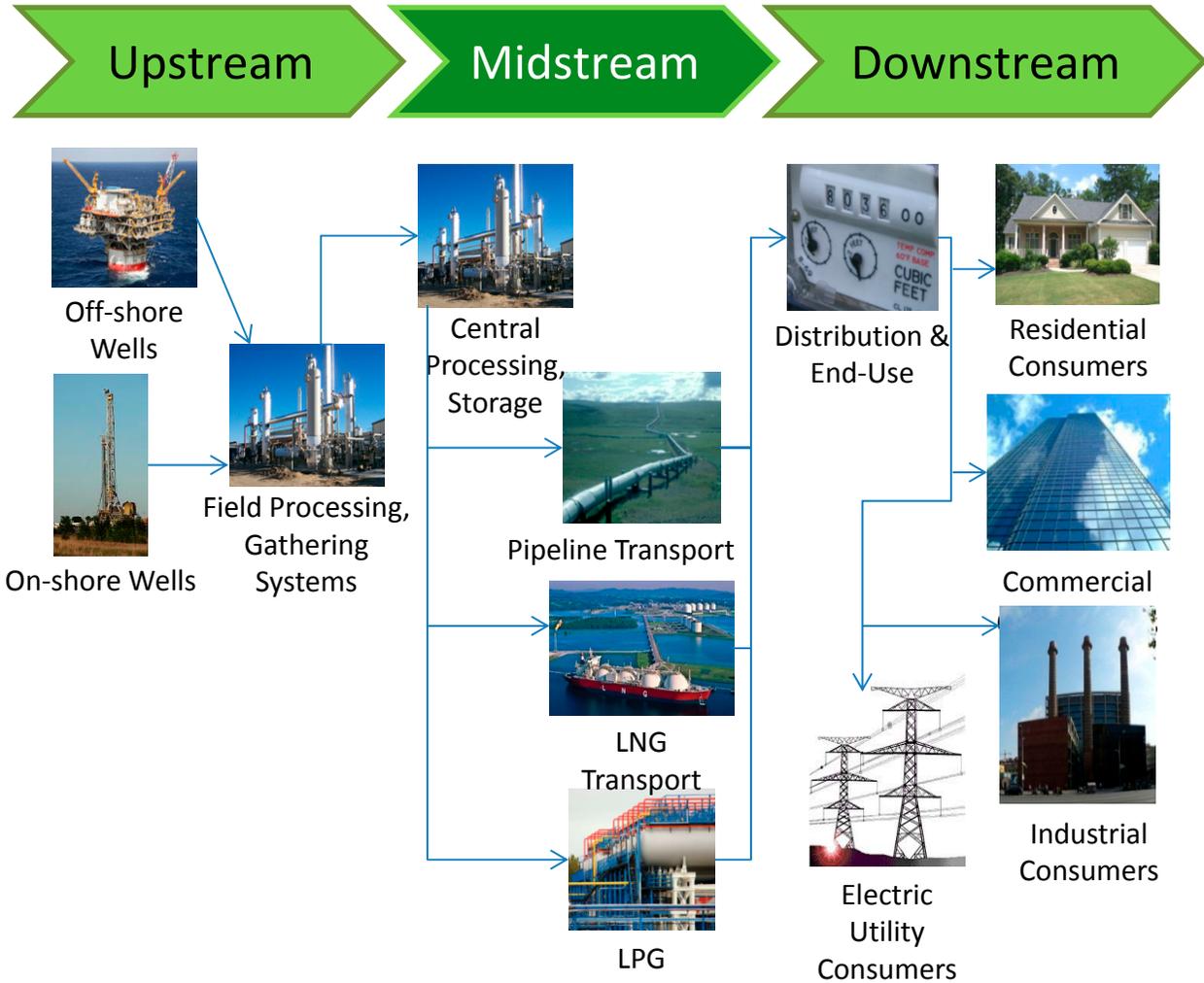
- A profitability method (ROR or R-factor) allocates profit petroleum according to the Contractor's pay-back ratio.
- These methods are more suitable than production rate methods as they are more closely aligned to field/contract area profitability
 - **Government take increases** in line **with profits** rather than volumes of profit oil
 - **Marginal fields** more likely to be economic under a method linked to profitability as **factors in costs directly**
 - **Profitable fields** pay **higher rates of taxation**, regardless of volumes
 - ROR / R-Factor methods are **more flexible** in the face of **exploration uncertainty** (Terms are set before volumes known)
 - **ROR and R-Factor capture windfall situations** whether due to volumes or prices or lower costs (no need for a windfall tax 'threshold' price)
- ROR and R-Factor methods *could* use the same rates for both oil and gas

Natural Gas Value Chain

Risk

Capital Structure

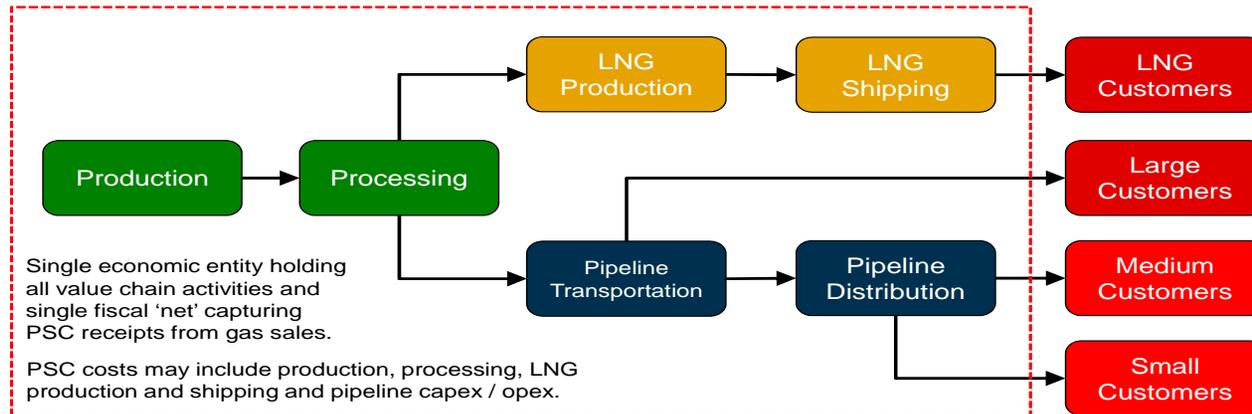
Reward



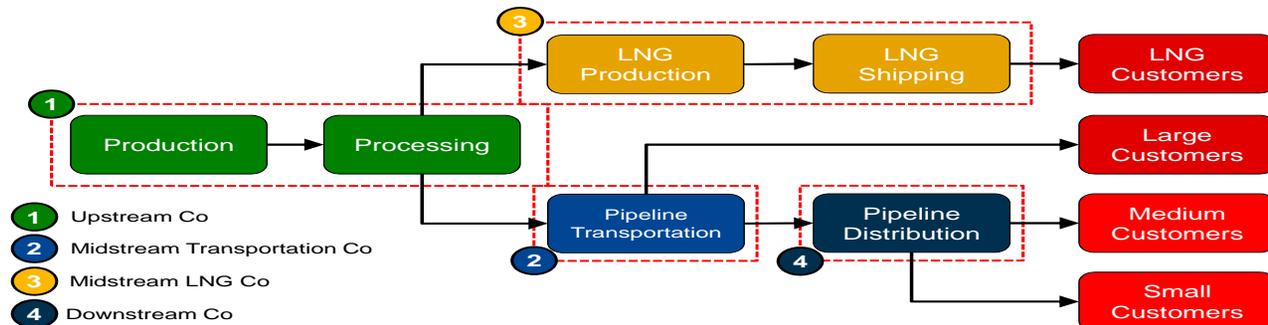
Distinct characteristics of each element of the value chain require different treatment to attract investments

Commercial and Fiscal Structures of the Value Chain

Integrated structure



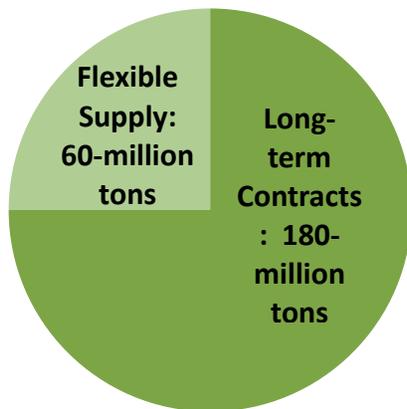
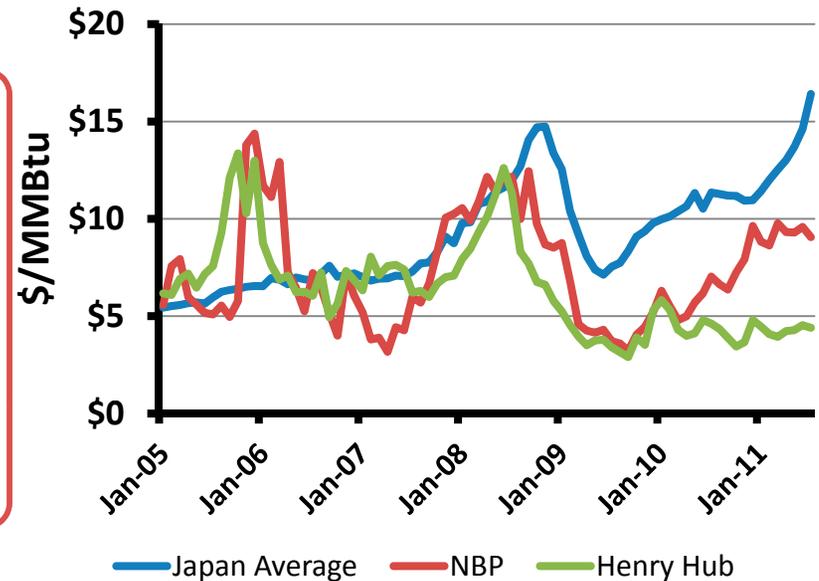
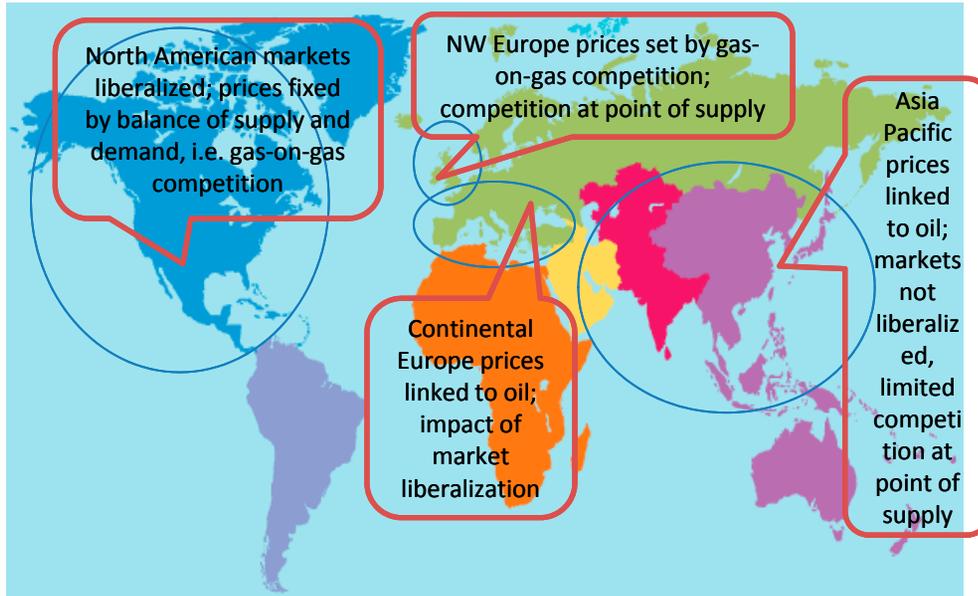
Segmented structure



Under the segmented structure the PSC net encompasses the Upstream Co and captures PSC hydrocarbon receipts and includes only PSC costs, paying a tariff / toll to the midstream infrastructure owners. The PSC hydrocarbon receipts are subject to the PSC fiscal regime.

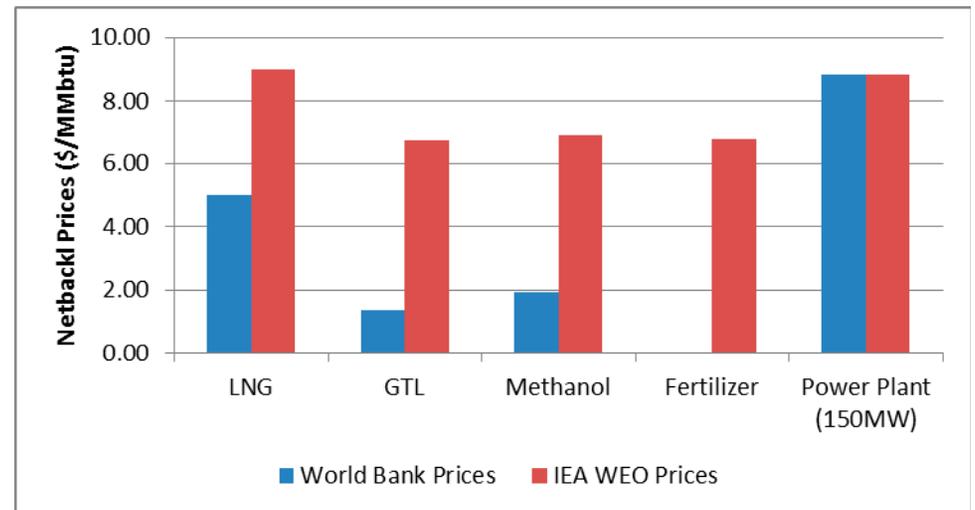
Midstream Transportation Co, Midstream LNG Co and Downstream Co are subject to Corporate Income Tax.

Markets and Valuation Issues



LNG Supply 2012: 240 Million Tons

Netback Values Gas Export and Domestic options Mozambique



Source: Mozambique Gas Master Plan, WBG, ICF, (2013)

Natural Gas Pricing



Price based on
“cost of service”
(regulated)

Price based on
alternative fuels
(free market)

\$/mmbtu @
burner tip

Regulated pricing mechanisms must set prices:

- high enough to attract upstream interest,
- low enough to encourage demand growth, and
- be dynamic enough to reflect changes in energy markets

Market pricing mechanisms must set prices:

- at arm’s length basis (benchmarks)
- approved by Government to assure value is maximized
- gas that has an export market should be priced at export parity if used domestically

Price subsidies should be transparent and well-designed to avoid unintended consequences

Transfer Pricing

- Upstream fiscal regime generally results in a higher rate of taxation than the midstream fiscal regime.
- Government total revenues from taxation will depend on the transfer price between the upstream and the midstream.
- Three approaches (Kellas, 2008):
 - At the midstream's breakeven price e.g. Indonesian approach
 - At the upstream's breakeven price; less common e.g. Equatorial Guinea; or
 - A transfer price which falls between the two extremes e.g. Australian 'Residual Price Mechanism'.
- International practice suggests a segmented business model with a narrowly defined fiscal net.
- Segmentation, coupled with regulated midstream tariffs and OEC transfer pricing guidelines mitigates the potential adverse consequences of transfer pricing abuses.

Government oversight along the Value Chain

	Upstream (E&P, Field Processing)	Midstream (Central Processing, Pipelines, LNG)	Downstream (Distribution to End Users)
Policy-making	Ministry	Ministry	Ministry
Public tendering and Contract Negotiation	Ministry	N/A	Ministry
Contract Compliance (Commercial, Technical, Health, Safety, Environmental Compliance)	Upstream Petroleum Authority	Mid/downstream Regulator	Mid/downstream Regulator
Government Participation	NOC	Pipeline Company	NOC

Roles and responsibilities must be clearly assigned to avoid inefficiency, conflicts of interest and inconsistencies

Other gas related fiscal issues

Fiscal Design Objectives

- Competitiveness
- Progressiveness
- Simplicity
- Transparency
- Stability
- Equitability

Gas flaring: waste of value, damaging for the environment

- prohibit the flaring of natural gas, except in prescribed circumstances
- development plans be required to account for associated gas utilization
- fiscal terms to provide incentives for the use of associated gas
- open and non-discriminatory access to gas infrastructure

Thanks for your attention

For further information:

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**FISCAL MANAGEMENT OF OIL AND
NATURAL GAS IN EAST AFRICA**

East African Community and
International Monetary Fund Workshop

**January 15 – 17, 2014
Arusha, Tanzania**

**Overview of Petroleum Revenue
Administration Issues (FAD Handbook)**

Andrew Okello

IMF Fiscal Affairs Department



Managing Natural Resource Wealth Topical Trust Fund

NR RA Challenges

- NR increasingly important (potentially transformative) for many LIC/LMICs
- RA often a weak link in the chain that should convert NR into national wealth
- So what is special about NR revenue administration?
- Should NR revenue administration be different from general revenue administration?
- Organizing the collection of NR revenues is conceptually straightforward, but why is it often quite problematic in practice?



NR RA Handbook

Emerged from various initiatives

IMF Board Paper on Fiscal Regimes for EIs: Design and Implementation

Work on IMF Technical Note on NR RA

Collaboration with WB research project on African mining RA
To be issued as joint IMF/WB publication

Several target audiences

NR RA “experts”

General RA experts providing TA to resource-rich countries

NR revenue administrators in those countries



What's So Special About NR RA?

- NR – a simple business...
- With a number of special features...
- That often lead to special tax policy responses...
- That present many special RA issues...
- (As well as all the usual RA issues)

Chapter 1 of the Handbook explains what is different about NR RA and why

A Simple Business ...

- Make holes in the ground...
- Take stuff out...
- Move it to export point or domestic refinery...
- Can be physically analyzed, weighed and measured...

... With Special Features ...

- NR are non-renewable
- Wide range of scale and profitability
- High profit (“rent”) potential
- High uncertainty and risk
- Substantial capital investment and technology required
- Long development periods, high sunk costs and abandonment costs
- Geographical concentration
- High export/import levels
- Distinctive commercial risk-sharing arrangements
- Transfers of business interests common
- High level of state control/ownership
- Poor governance/transparency

... Resulting in Special RA Issues

Which can be grouped under 5 headings; discussed in chapters 2 to 6 of the Handbook:

- Policy and Legal (Chap.2)
- Organization and Cooperation (Chap. 3)
- Procedures (Chap. 4)
- Governance and Transparency (Chap. 5)
- Administrative Capacity (Chap. 6)

Special Policy/Legal Features

- Special taxes (e.g. royalties, progressive or rent-based taxes, production-sharing, bonuses, etc)
- Tax variation by type of NR/project
- Specially negotiated contract-based tax regimes
- Stability clauses
- Govt revenues from equity participation (+ blurred distinction with taxation)
- Major transfer pricing risks
- Special tax provisions

Special Policy/Legal Features (cont'd)

Special tax provisions e.g. on

- Valuation
- Transfer pricing
- Benchmark-based pricing
- Ring-fencing
- Cost definition and depreciation
- Cost recovery limits
- Abandonment reserves
- Loss reliefs
- Thin cap
- Hedging
- License transfers
- Withholding taxes
- Import/export tax exemptions
- Domestic processing incentives
- Etc.

Policy/Legal Issues

- Royalties vs. profit-based taxes
- Non-transparent/inaccessible legislation
- Inadequate administrative input into policy
- Needless complexity
- Badly designed provisions
- Unclear specification of non-tax revenues e.g.
 - Returns on equity participation
 - Social and infrastructure expenditure obligations

Special Organizational Issues

- Fragmented administration common
- Blurring of taxation, industry regulation and commercial roles
- Involvement of national oil/mining companies
- Fiscal de-centralization
- Major political economy considerations

Ideal Organizational Framework?

	POLICY	ADMINISTRATION /EXECUTION
FISCAL	FINANCE MINISTRY ←	TAX DEPARTMENT
INDUSTRIAL	NR MINISTRY ←	NR INSPECTORATE
COMMERCIAL	NR /FINANCE MINISTRY ←	NR COMPANY

Organization

Disadvantages of fragmented revenue administration

- More burdens on taxpayers
- Duplication of work
- Lack of clarity about responsibilities
- Lack of accountability
- Uncoordinated management/systems/procedures
- No over-arching compliance strategy
- Coordination vital but difficult in practice
- Possible conflict of interest
- Dissipation of effort on strengthening RA capacity and governance



Organization

- Integrate administration of different NR revenues within one department
- Improve cooperation and information exchange between revenue department and NR department

Organization

- Organize *internal* administration on basis of
 - separation of functions
 - taxpayer segmentation
 - NR industry specialization

Special Procedural Issues

General

- Special taxes (e.g. royalty, production sharing) may have very different admin framework from CIT, etc

Particular

- Dollar accounting/payment
- Benchmark-based pricing (and appeal procedure?)
- Payment in kind (petroleum)
- Joint venture returns/audits
- International arbitration
- Confidentiality rules



Procedures

Routine processing (registration, returns, payments)

- Fully implement self-assessment
- Harmonize and simplify rules for different NR revenues e.g.
 - Consolidated returns
 - Common accounting periods (annual returns for all revenues?)
 - Common instalment rules (e.g. quarterly instalments of all revenues?)
 - Common procedures for payment/banking
- Integrated administration makes this easier



Procedures

Non-routine procedures

- Taxpayer service
- Physical audit
- NR valuation
- Risk assessment
- Audit
- Enforcement
- Dispute resolution

Procedures

Non-routine procedures

- Physical audit/valuation
 - Clarify responsibility/procedures for physical audit
 - Clear publication of reference prices
- Enforcement
 - Link with licensing regime
- Taxpayer service/risk assessment/audit
 - Need for risk-based strategies and plans
 - Risks depend on nature of law
 - Reduce audit overlaps
- Dispute resolution
 - May need expert international arbitration



Transparency

- Transparency essential if countries to benefit from NR
- Good news – should be easy
 - E.g. single annual self-assessment of royalty, CIT, RRT (+ audit assessment) can conclusively show revenues due for year
 - Bank statement can conclusively show revenues paid
- Bad news – countries often find it difficult

Transparency

How to make transparent accounting difficult

- Lots of different NR revenues
- Different filing and payment rules for each revenue
- Lots of returns and payments for each revenue
- Payment of some revenues in kind
- Different agencies for different revenues
- Different banking arrangements
- NRC revenues not subject to normal admin controls
- Nobody responsible for the whole job

Special Capacity Issues

- Understanding of special NR legal issues and risks
- Understanding of NR industry processes/accounting/jargon/language
- Understanding of benchmark pricing
- Need for special technological expertise?
 - e.g. for “physical audit”, cost audit.

Capacity

- Capacity needs reduced by clear law, good organization, coherent procedures
- Uncompetitive pay a major issue
 - Public/private sector gap too big
 - Inadequate differentials between staff
- If law well designed, tax audits require tax auditors, not mining or petroleum engineers
- Training + manuals
- Outsourcing? (need to be extremely cautious)

NR Revenue Administration

- Summary

- Policy – simple, clear, well designed, robust fiscal regime
- Organization – integrated, function-based, reflecting principles of specialization, taxpayer segmentation
- Procedures – simple, effective, harmonized, reflecting principles of self assessment, risk-based compliance strategy
- Transparency – organization, procedures designed to support accurate & timely reporting of NR revenues
- Capacity – well paid, trained and equipped staff



Natural Resource Revenue Administration

Thank you





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Arusha, Tanzania**

**Petroleum Tax Administration in
EAC Countries
A Private Sector Perspective**

**Bill Page
Deloitte.**



Managing Natural Resource Wealth Topical Trust Fund

Agenda

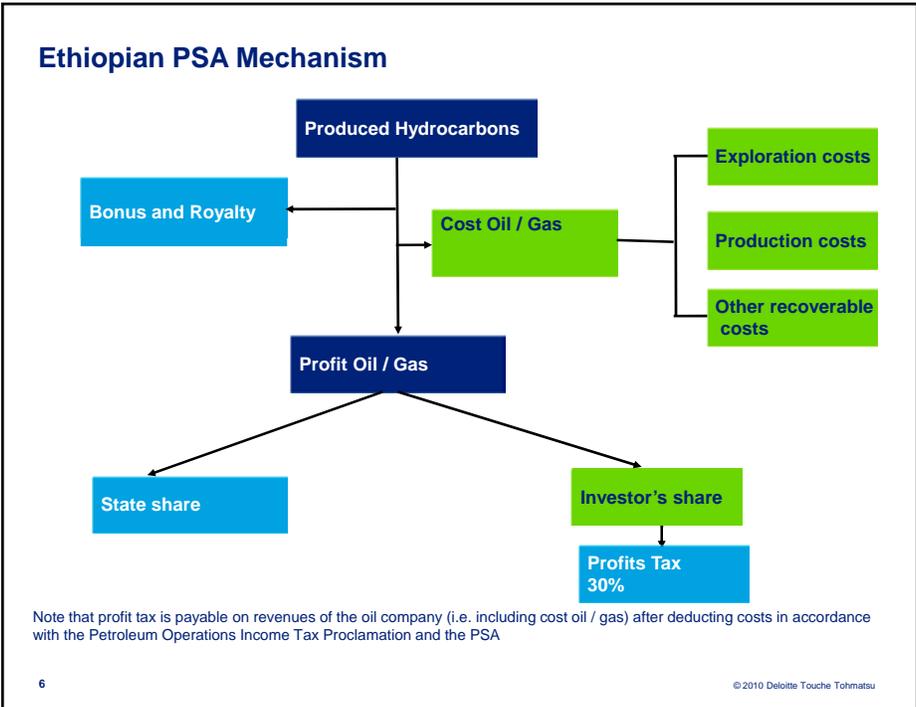
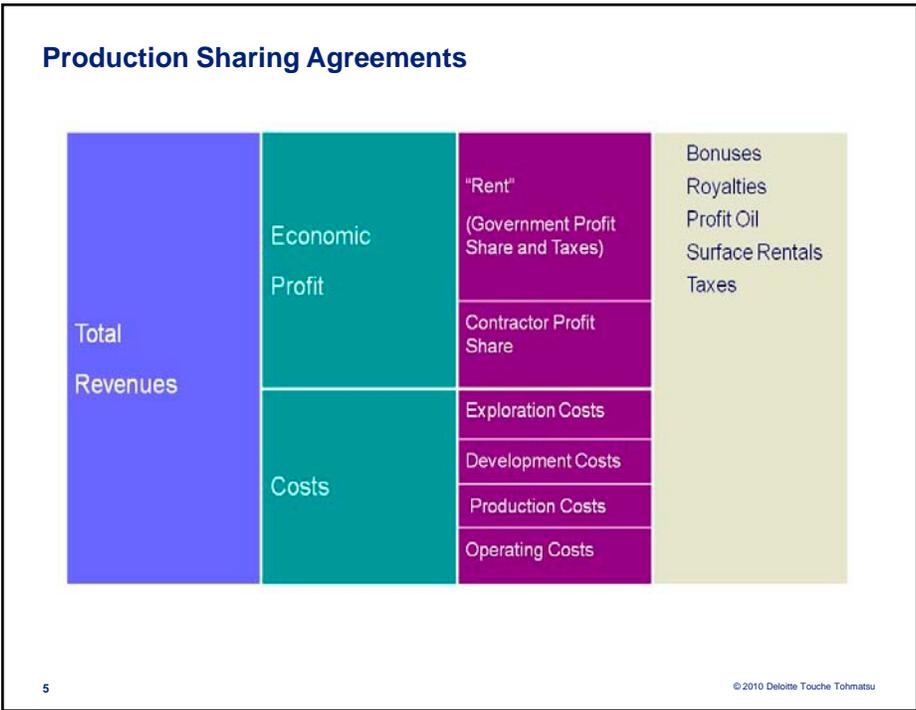
- Fiscal principles – is there an ideal tax regime for extractive industries?
- What are IOCs looking for?
- What does “tax planning” mean for IOCs?
- Some “Dos” and some “Don’ts”
- M&A activity
- Conclusions

Fiscal principles



Characteristics of the upstream oil and gas industry

- Risky
- Expensive
- Potential for high rewards in the event of success



Illustrative economics – onshore project (East Africa)

Discounted; assumes full recovery of VAT

Gross revenue	\$ 23,000 million
Costs	\$9,500 million
Net revenue	\$13,500 million
Government take	\$10,000 million
%age government take	74.1%
IOC take	\$ 3,500 million
%age oil company take	26.9%

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Conflicting objectives?

Flexible is best:

Government

- Maximize up-front revenues
- Maximize life of project revenues
- Maximize local content/economic contribution

IOCs

- Manage risks
- Book reserves
- Accelerate payback
- Maximize earnings

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Typical concerns for IOCs in frontier provinces

- Subsurface: are the hydrocarbons there?
- Are they commercial?
 - Geology
 - Infrastructure
- Political stability?
- Regulatory environment:
 - Reasonable post-tax economics?
 - Enforceable contract?
 - Predictable, stable, consistent tax regime?
 - Clear and fair appeals mechanism?
 - Risk of expropriation?

Helpful hints for policy makers and tax officials!

- It's all about risk and reward. If you can help reduce the IOCs' perception of risk they will be prepared to give you an even bigger share of the reward.

OR, to put it another way:

- Offering a stable, consistent and predictable tax environment, with a fair, transparent, timely and reliable appeals process is very valuable to IOCs. If you can convince them that you will provide this, they will accept a higher government take.

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What does “tax planning”
mean for IOCs?



Tax planning

- Upstream projects are long-term: 30-40 years is typical
- IOC tax planning is generally about understanding how ambiguous tax rules apply to complex projects and reducing the risks that tax represents
- Short term tax savings using aggressive tax planning may jeopardize the IOCs' social license to operate
- The extractive industries are under intense scrutiny from governments, shareholders, local populations and NGOs.

“Never do anything you wouldn’t feel comfortable reading about on the front page of the Wall Street Journal or the Financial Times.”



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Some “Dos” and some
“Don’ts”



Sanctity of contract



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VAT = Very Annoying Tax?

A tax on value added or a tax on investment?

Impact on exploration: how many wells would you like us to drill?



Impact on development: one LNG train or two?



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Death by a thousand taxes?

- Bonuses
- Royalties
- Minimum state share of production
- Turnover taxes
- Property taxes
- Transaction taxes
- Employment taxes
- Withholding taxes
- Profits tax



Fine. But remember that any tax that impacts projects in the exploration or development phases will have a big impact on the NPV, IRR and can make marginal projects uneconomic.

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M&A activity



M&A activity

Purchase and sale transactions

- Purchase of assets / interests in PSAs
- Share transactions –direct and indirect

Farm-in transactions

- Reimbursement of past costs
- Work program
- Additional cash consideration?

Development carry

- Reimbursement of past costs?
- Work program
- Additional cash consideration?

Contingent consideration

- Over-riding royalty



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M&A activity: what are the problems?

It's complicated:

- Taxing gross receipts rather than profits and gains
- Taxing work programs
- Extra-territorial taxation

In general IOCs are happy to pay taxes when they have profits:
 "Successful companies pay taxes." Trying to tax gross proceeds or the value of work to be done will usually be counter-productive.

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Conclusions



Offering a stable, consistent and predictable tax environment, with a fair, transparent, timely and reliable appeals process is very valuable to IOCs. If you can convince them that you will provide this, they will accept a higher government take.

The Deloitte logo is centered within a large black rectangular frame. It consists of the word "Deloitte" in a bold, blue, sans-serif font, followed by a small green dot.

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23 Oil & Gas Training



**FISCAL MANAGEMENT OF OIL AND
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Macro-fiscal Policy Frameworks and Anchors: An Overview of Issues

Thomas Baunsgaard
IMF Resident Representative in Tanzania
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Managing Natural Resource Wealth Topical Trust Fund

Recent IMF papers responding to active academic and policy debate



August 24, 2012

MACROECONOMIC POLICY FRAMEWORKS FOR RESOURCE-RICH DEVELOPING COUNTRIES

- **Challenges and objective.** Resource-rich developing countries (RRDCs) face the challenges of transforming resource wealth into other assets that support sustained development, while also maintaining mechanisms to avoid the boom-bust cycles that stem from volatility in natural resource revenues. Their distinct characteristics—low per capita incomes, scarcity of domestic capital, and limited access to international capital markets—make advice based on traditional consumption-savings/investment theories inadequate. The objective of this paper is to develop new macrofiscal frameworks and policy analysis tools for RRDCs that could enhance Fund policy advice.
- **Optimal macroeconomic management of resources.** While some frontloading of consumption may be desirable given pressing development needs, a high proportion of resource revenue should go to savings and domestic investment to generate lasting development gains. RRDCs need to avoid boom-bust cycles by working to delink spending from the volatility dynamics of resource revenues.
- **Key innovations.** The paper puts forward five key innovations:
 - A fiscal sustainability framework that accounts for the growth- and revenue-enhancing impact of public investment;
 - A sustainable investment tool for RRDCs to analyze the fiscal and macroeconomic implications of saving/investment scaling up scenarios;
 - A set of proposed fiscal indicators for RRDC staff reports to measure the savings from and use (consumption or investment) of resource flows;
 - A new toolkit for designing fiscal rules that smooth revenue volatility and assess long-term fiscal sustainability; and
 - A framework that generates current account benchmarks for external sustainability analysis in RRDCs.
- **Next steps.** The next phase of the work initiated for this paper will include further developing and piloting the proposed new frameworks and tools. Work will also proceed on ways to better analyze and gauge countries' "absorptive capacity," build a cross-country database of variables relevant for RRDCs, and analyze more deeply the short-run macroeconomic challenges facing RRDCs and their implications for the macroeconomic policy mix.

African Department

Boom, Bust, or Prosperity? Managing Sub-Saharan Africa's Natural Resource Wealth



Charlotte J. Lundgren, Alun H. Thomas, and Robert C. York

INTERNATIONAL MONETARY FUND



IMF STAFF DISCUSSION NOTE

May 16, 2012
SDN/12/04

Fiscal Frameworks for Resource Rich Developing Countries

Thomas Baunsgaard, Mauricio Villafuerte, Marcos Poplawski-Ribeiro,
and Christine Richmond

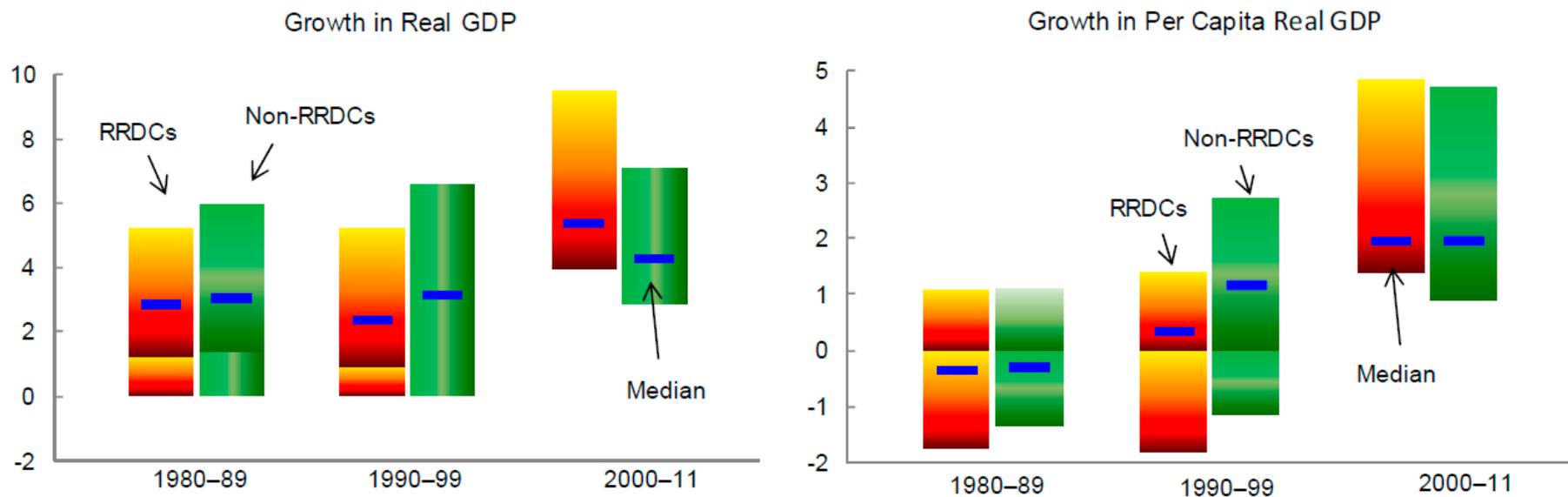
INTERNATIONAL MONETARY FUND

Overview

1. Stylized Facts
2. Fiscal Policy Challenge and Response
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4. Uncertainty and Volatility
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Stylized Fact 1: Mixed impact of natural resources on growth

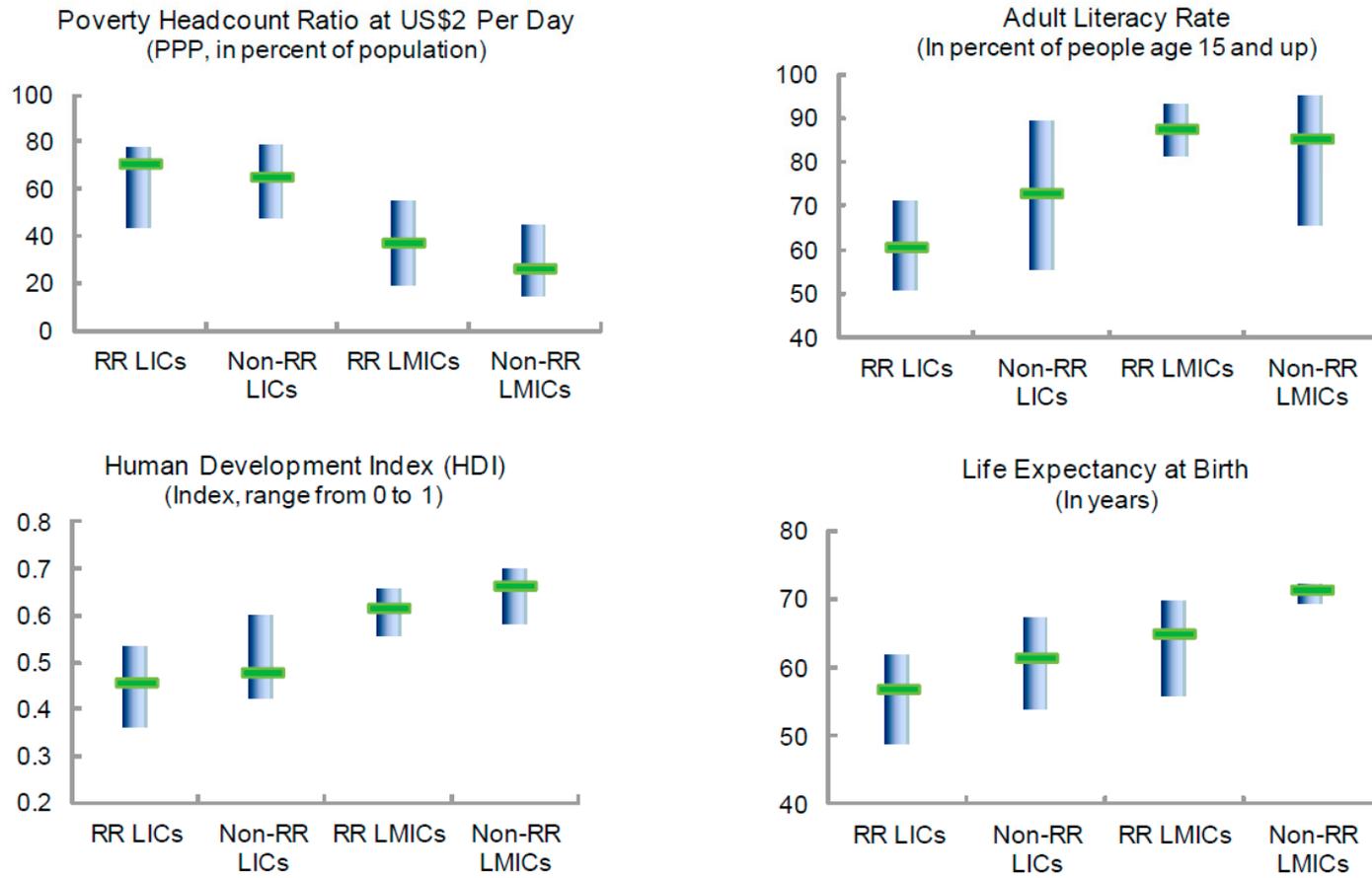
Growth in Real GDP and Per Capita Real GDP for RRDCs and Non-RRDCs: 1980-2011
(Median and interquartile range, in percent)



Sources: World Economic Outlook; and IMF staff estimates.

Stylized Fact 2: Disappointing poverty and human development outcomes

Development Indicators for Resource-Rich and Non-Resource-Rich Developing Countries
(Median and interquartile range)¹

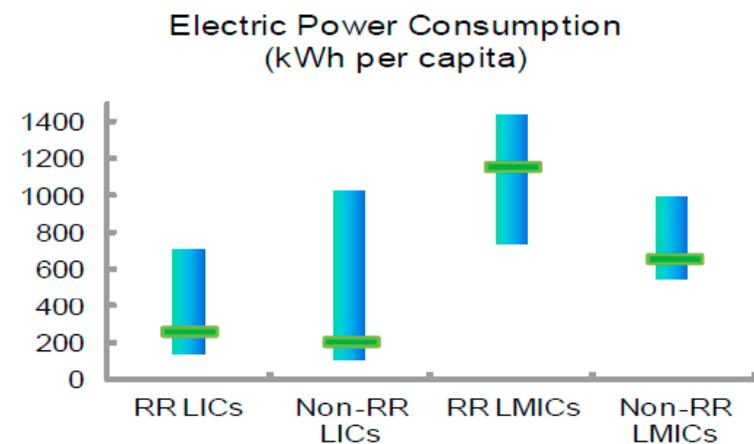
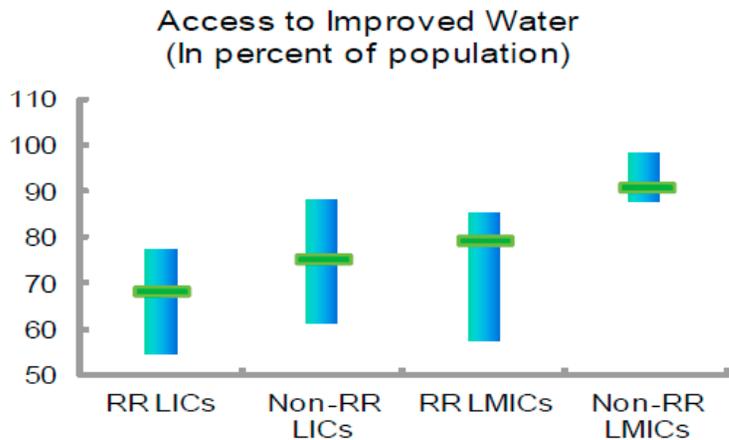
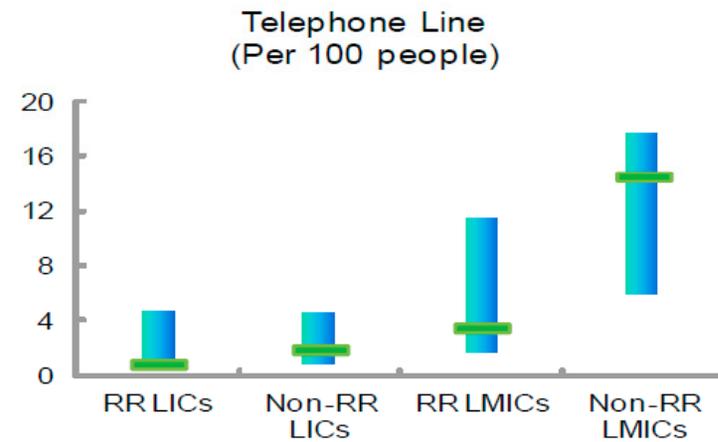
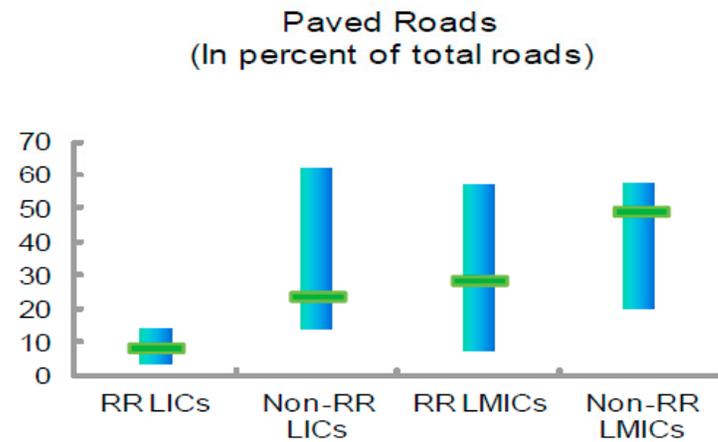


Sources: World Bank; UNDP; and IMF staff estimates.

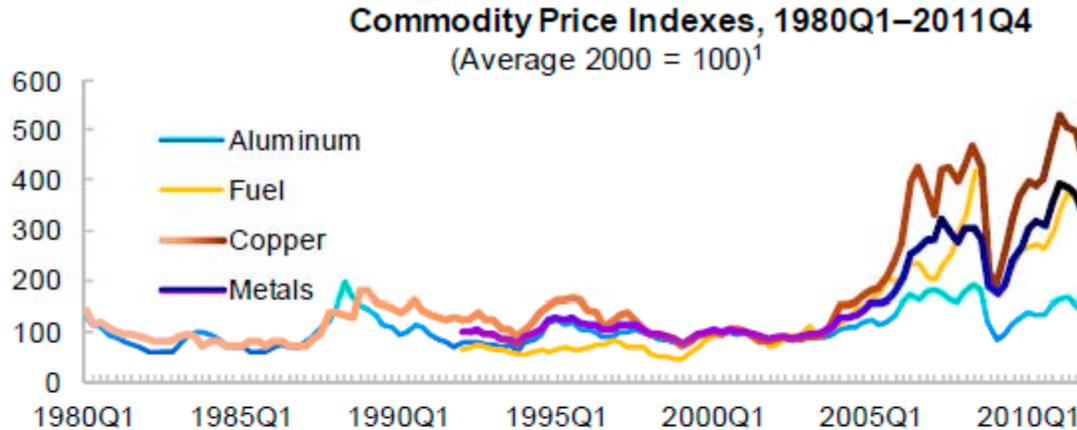
¹Using latest available data since 2000. RR: Resource-rich; Non-RR: Non-resource-rich.

Stylized Fact 3: Remaining large infrastructure gaps

Infrastructure Indicators for Resource-Rich and Non-Resource-Rich Developing Countries
(Median and interquartile range)¹

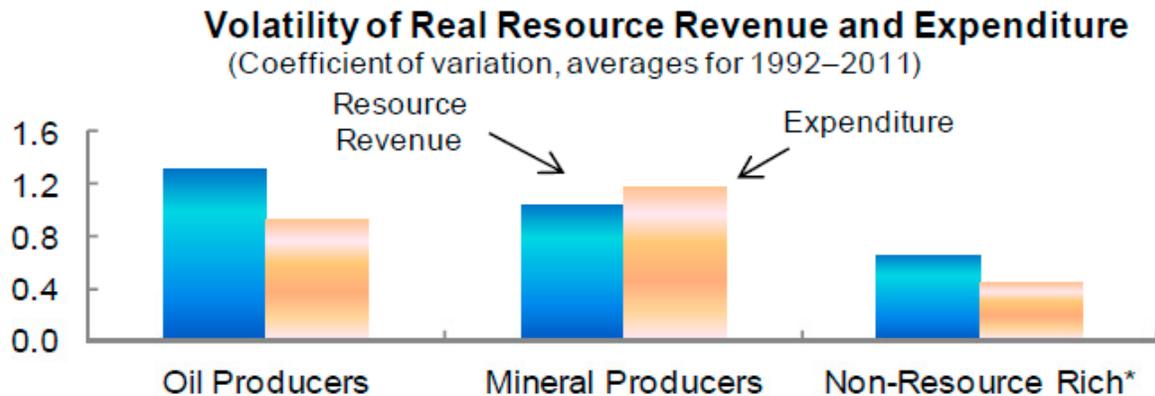


Stylized Fact 4: Resource revenue volatility affects the budget



Source: World Economic Outlook.

¹Fuel: composite of crude oil, natural gas, and coal prices; Metals: composite of prices for copper, aluminum, iron ore, nickel, zinc, lead, and uranium.



Sources: WEO and IMF staff estimates.

* Real total revenue.

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The Fiscal Policy Challenge...

- Transform **sub-soil assets** into **financial, physical and human capital assets**
- Manage resource revenue **exhaustibility** and **volatility**
- Natural resources *can* support economic development and transformation...but often the potential is not realized → “resource curse”?

...and Response

- Macro-fiscal policy needs to address:
 - Demand management (short term)
 - Inter-temporal solvency (long term)
- The fiscal policy framework should be **country-specific**:
 - Resource horizon (temporary vs long-lasting)
 - Sensitivity to revenue volatility (high or low)
 - Domestic capital scarcity/development needs
 - Absorption capacity and public investment efficiency
- **Rule of thumb**: A high proportion of resource revenue should go to savings and domestic investment; avoid boom-bust cycles by smoothing spending delinked from resource revenue dynamics

Macro-fiscal Framework: Primary Objectives

Country-specific Decision Matrix		Petroleum Revenue (oil and natural gas)			
		Long-lasting		Short-term (<30 years?)	
		Objectives	Examples	Objectives	Examples
Capital Scarcity (Infrastructure gaps; development needs)	High	Macroeconomic stability Managing volatility Development	Nigeria Iraq	Macroeconomic stability Sustainability/exhaustibility Development	Bolivia Ghana EAC
		<i>Rule: Flexible structural balance perhaps with front-loaded investment</i>		<i>Rule: Flexible PIH-based non-petroleum primary balance with front-loaded investment</i>	
	Low	Macroeconomic stability Managing volatility	Saudi Arabia Kuwait Qatar	Macroeconomic stability Sustainability/exhaustibility	UK Netherlands Norway
		<i>Rule: Structural balance perhaps with expenditure growth cap</i>		<i>Rule: PIH-based non-petroleum primary balance</i>	

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Savings-Investment Decision

- The fundamental policy question:(i) how much of the resource revenue flow to consume and how much to save in each period; and (ii) where to save and invest
- Optimal savings rates are higher when the resource revenue flow is relatively short-lived or volatile/uncertain
- The relative return to domestic investment may be higher in developing countries (capital scarcity and liquidity constraints)
- Expenditure smoothing in principle desirable, but some front-loading may be welfare-improving in developing countries

Constraints on Scaling-Up Investment

- **Absorption constraints** (declining rate of return as the pace of investment increases)
 - *Target investment at reducing supply bottlenecks*
 - *Strengthen public investment management capacity*
 - *Scale up investment only gradually*
- **Political economy** (“capture” of resource windfall)
 - *Codify policy framework in legislation with enforcement mechanism*
 - *build political and national consensus on revenue usage*

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4. Uncertainty and Volatility

- Revenue uncertainty and volatility complicate macroeconomic management
 - Usually focus on price volatility, but production volume and cost are also uncertain
 - If revenue volatility is high and persistent, a strong case for precautionary financial savings – build up savings in good times and draw on them in bad times
- *Reduce the transmission of revenue volatility by delinking expenditure from revenue dynamics*

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5. Debt and Borrowing

- Natural resource revenue may increase the capacity to borrow...which needs to be managed wisely
- Borrowing against future revenue, perhaps before production commences, will reduce fiscal flexibility later
- Borrowing plans should be integrated into a comprehensive debt management strategy
- There may also be scope to use resource revenue to reduce existing debt or other liabilities
- For new producers, resource revenue should only be integrated into the DSA base case when the revenue is expected with sufficient certainty

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6. Fiscal Policy Frameworks

Key components of macro-fiscal policy framework:

- i. Long term fiscal sustainability benchmark
- ii. Fiscal policy indicators
- iii. Fiscal policy anchor/rule
- iv. Supportive fiscal institutions

The policy framework will be country-specific reflecting whether resource revenue is ***temporary or long-lasting*** and whether the economy is ***capital-constrained***

(i) Long-term Fiscal Sustainability

- ***Fiscal sustainability criteria***: can the government sustain spending, tax and other policies in the long run without threatening solvency or defaulting on liabilities or expenditure commitments
- Fiscal policy must respect the ***intertemporal budget constraint***, incorporating resource revenue
- Use sustainability benchmark to assess non-resource primary deficit

*Inter-temporal Budget Constraint: [Net financial assets] + [natural resource wealth] = - [NPV of cumulative non-resource primary balances] ,
where [natural resource wealth] = [NPV of cumulative future resource revenue]*

(ii) Fiscal Policy Indicators

- Overall fiscal balance
 - =total revenue minus expenditure*
 - Indicates net financial position (measure of financial vulnerability)
- Non-resource primary balance
 - =overall fiscal balance excluding resource revenue and expenditure associated with the development of the resource sector and interest payments*
 - A measure of the underlying ***fiscal policy stance***
 - Fiscal policy can be compared against a sustainability benchmark and be delinked from revenue volatility

(iii) Fiscal Policy Anchor/Rule

- ***Non-resource primary balance rule*** (e.g., Timor Leste)
 - Set the non-resource primary deficit in line with the long run sustainability benchmark
 - Particularly relevant for countries with temporary resource flows (e.g., less than one generation)
- ***Structural balance rule*** (price-smoothing) (e.g., Chile)
 - Set the fiscal balance with structural resource revenue (e.g., calculated at “long-run” price) to zero
 - Can be useful to insulate spending from price volatility
 - Particularly relevant for countries with long resource horizon
- ***Other rules***: Price-based or fixed proportion rules (e.g., Ghana); non-resource current balance rule (“golden rule”) (e.g., Botswana)

(iv) Supportive Fiscal Institutions

- Strengthen **public financial management** systems:
 - Develop credible medium-term orientation to the budget
 - Improve public investment management process
 - Bolster fiscal transparency
- Possible use of **resource funds** should reinforce the fiscal policy framework, not be a separate policy tool
 - Integrate petroleum revenue and funds into the budget process and PFM framework
 - No parallel spending program

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7. Petroleum and EAMU Convergence Criteria

- The EAMU protocol has macroeconomic convergence criteria on (i) headline inflation $< 8\%$; (ii) fiscal deficit including grants $< 3\%$ of GDP; (iii) ceiling on gross public debt in NPV terms $< 50\%$ of GDP; and (iv) reserve cover of 4.5 months of imports
- Impact of large-scale petroleum project:
 - Fiscal balance: could have large surpluses during peak production, and potentially large deficits during project development phase (if government is equity partner)
 - Debt ceiling: focus on gross debt ignores the potentially significant accumulation and subsequent drawdown of financial assets
 - Reserve cover: a significant increase in FDI-related investment will lead to large, temporary increase in imports during the project development phase
- Consider options for integrating petroleum revenue into the EAMU convergence framework

8. Macro-fiscal Conclusions

- A country-specific **fiscal policy framework** should guide the allocation of petroleum revenue between saving and spending, balancing financial saving with gradual scaling-up of investment
- The policy framework could be reinforced by **fiscal policy rules** (flexible, credible, transparent)
- The non-resource fiscal primary balance should be monitored as a measure of the **fiscal stance**, and *could anchor* fiscal policy if resource horizon is relatively short
- The gas revenue should be **integrated into the fiscal policy and budget framework**, although could be reinforced by an integrated **resource fund**
- Build capacity for a forward-looking, medium-term orientation to the budget

Appendix: Basic Math of Fiscal Sustainability

(1) Overall balance: $OB_t = NRT_t - E_t + RT_t + i_t^a A_{t-1} - i_t^d D_{t-1}$

(2) Non-resource primary balance: $NRPB_t \equiv NRT_t - E_t$

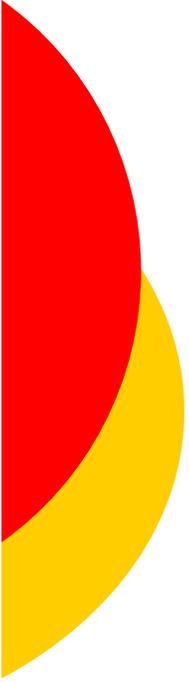
(3) Link to net financial assets: $OB_t \equiv \Delta(A_t - D_t)$

(4) Intertemporal budget constraint: $A_{t-1} - D_{t-1} = -\sum_{s=t}^{\infty} \frac{NRPB_s}{(1+i)^{s-t+1}} - \sum_{s=t}^N \frac{RT_s}{(1+i)^{s-t+1}}$

(5) Government net wealth: $W_{t-1} \equiv A_{t-1} - D_{t-1} + V_{t-1} = -\sum_{s=t}^{\infty} \frac{NRPB_s}{(1+i)^{s-t+1}}$, where $V_{t-1} \equiv \sum_{s=t}^N \frac{RT_s}{(1+i)^{s-t+1}}$

(6) PIH benchmark: $(NRPB_t = -\tilde{r}W_{t-1})$

Asante Sana!



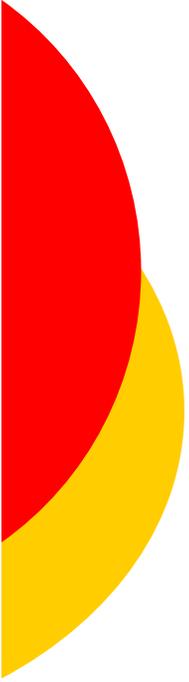
Macro-fiscal frameworks

EAC-IMF (FAD and AFR) Workshop, January 15-17, 2014

Fiscal Management of oil and Natural Gas in East Africa

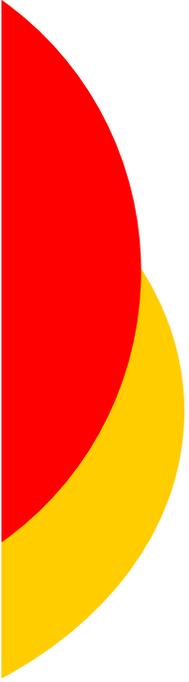
Presentation: L.K.Kiiza

Director Economic Affairs, MFPED Uganda



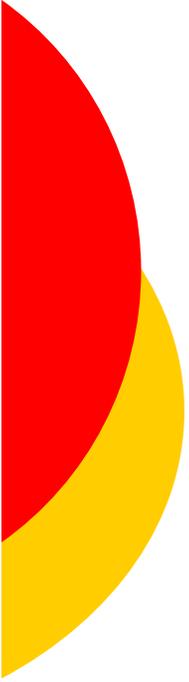
Macro-fiscal policy frameworks and anchors

- ***Outline***
- ***Challenges Posed Natural Resources***
- Fiscal Policy Management
- Macroeconomic Policy Implications
- Petroleum Fund Management



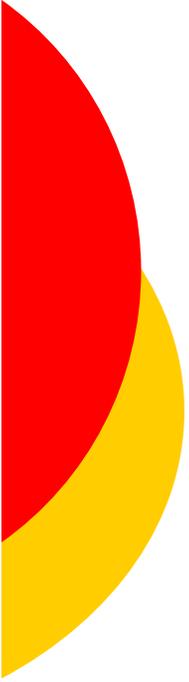
Macroeconomic Policy Framework for Natural Resources Revenues

- **Good Times in the Region!!! Managing expectations!**
- Will we reap the benefits from the resource revenues & drive growth & reduce poverty
- Or shall we fall prey to failed policies that have plagued natural resource producers mainly in Africa save Botswana
- How shall we balance spending now with investing in future given the unmet investment in infrastructure and human capital
- Issue is how to transform these exhaustible resources into assets- human, domestic & private capital & foreign financial assets- that will generate future income & support sustained development



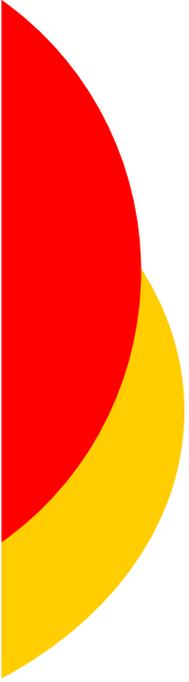
Fiscal policy Management

1. Managing Oil revenues is essentially about deciding “what to spend” and what to save” and invest “where” & “when.”
2. Central to the expenditure question is avoiding such outcomes as “stop-go” public spending.
3. Unsustainable “boom-based” oil revenues, Dutch disease effects, a shift to consumption rather productive sectors, exchange rate appreciation, rent-seeking and a disincentive to private sector.
4. Fiscal Treatment central to Oil Revenues management’s role in the macroeconomic stability of the country.
5. Involves components including how the Oil Fund receives its resources, how its principal and earnings are employed & what procedures are followed to limit pro-cyclical influences on fiscal policy
6. Fund not used as a second budget but integrated with overall budget
7. These issues affect design of fiscal policy, including sound decision making



Oil and Gas Revenues Characteristics

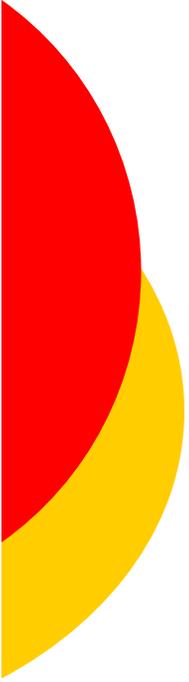
- Nonrenewable resources & exhaustible
- Uncertainty and unpredictable due to volatility of prices
- Uncertainty about value of resources and timing of revenues
- Forecasting prices is hard. whether from income-driven variations in demand, or through volume constraints from target pricing by suppliers.
- creates challenges in design & implementation of sound macro-fiscal policies –need for distinct medium term fiscal rules and precautionary savings



Fiscal Policy Frameworks Objective

- Fiscal Policy Framework for natural resources need to address two economic issues:
 - Demand
 - How does fiscal policy contribute to domestic demand, growth, inflation and BOP
 - Solvency
 - Can fiscal policy be sustained once Oil & Gas have been exhausted

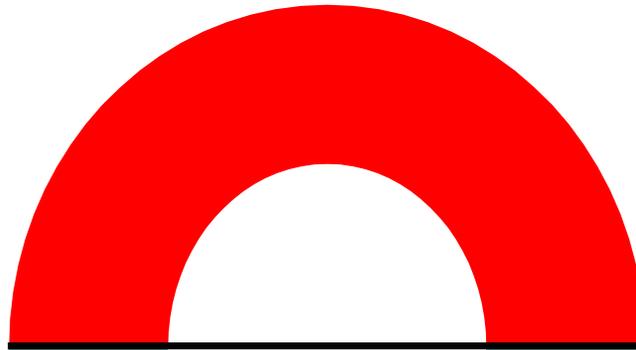
These issues are complicated by the horizon and volatility



Fiscal Framework Design linked to the Horizon

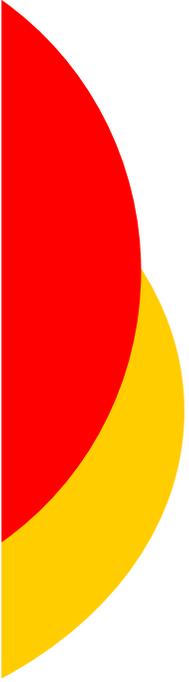
- Resource Horizon
- Duration until the Resources are exhausted

20-25 YEARS



SHORT HORIZON-
focus is on
sustainability on how
govt expenditure can
be sustained once
resources revenues end
(Uganda & Cameroon.

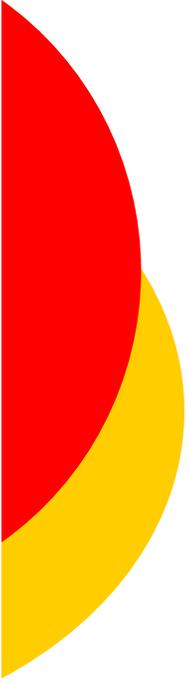
LONG HORIZON-
focus is on managing
revenue volatility as the
price of the resources
fluctuates . (Russia &
S.Arabia)



Macro-fiscal policies

- To help overcome these fiscal policies options range from
 - special fiscal institutions set-up
 - commodity funds (financing spending, stabilisation & savings)
- Fiscal Responsibility Legislation
- Fiscal Rules help to smooth revenue volatility -& Assesses
 - long-term fiscal sustainability
 - Impact of natural resource flows on a country's BOP and
 - Macroeconomic implications of saving-investment scaling up scenarios
- Conservative budgetary commodity prices

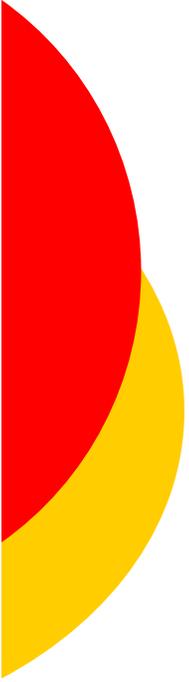
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Fiscal Policy Anchors

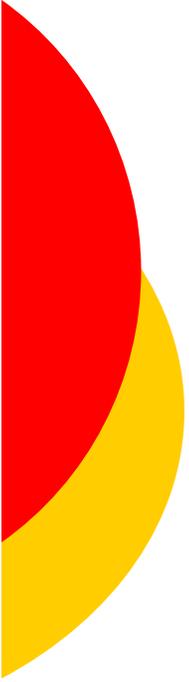
There are a lot of options for a fiscal anchor:

- **Type of anchor** **Countries**
- Overall balance: Mexico, Peru, Nigeria, Venezuela (current balance), Indonesia
- Non-resource balance: Timor-Leste, Ecuador
- Structural non-resource balance: Norway, Chile (w/ adjustment for changes in projected long-run price of copper)
- Expenditure: Peru, Ecuador, Venezuela (rate of spending growth in real terms. Limit the growth of current spending in nominal terms)
- Debt to GDP: Venezuela, Ecuador
- Anchor medium-term fiscal policy on the nonoil primary deficit



Fiscal Anchor Choice

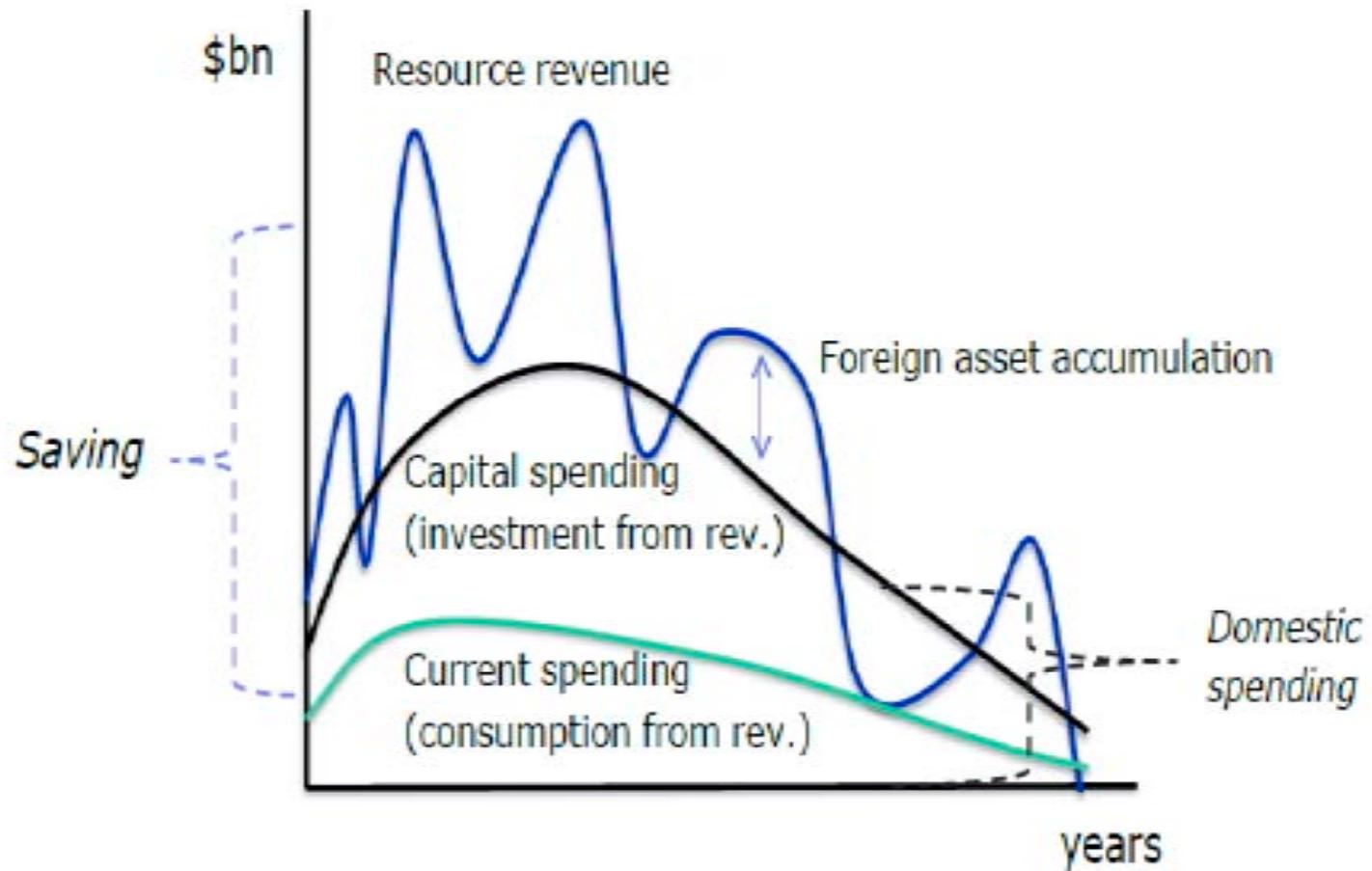
- Why the non-oil primary deficit
- Use non-oil concept to decouple fiscal stance from volatile oil prices
- Not to forget about the non-oil economy
 - Non-oil revenue performance begins to weaken if ignored
- Oil is a finite resource which will run out
- Mindful of competitiveness, given that Dutch disease effects (real appreciation) are unavoidable

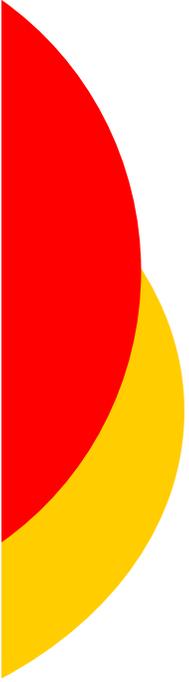


Fiscal anchor options cont'd

- The fiscal anchor cant be rigid- design of fiscal rules has proved a challenge in many countries given the uncertainty & frequent shocks
- There is temptation to carve the fiscal anchor in granite to avoid slippages-expedient short run slippage.
 - In an emergency, however, the rule will be “thrown out if too hard”- not sustainable.
- Need “escape clause” that tends automatically to bring policy back to the medium-term objective.

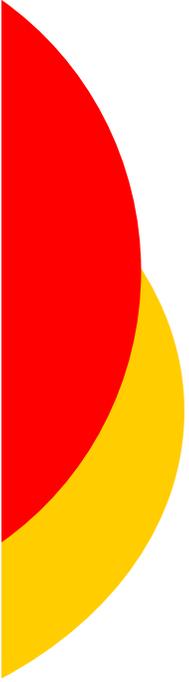
Three Options: Current Spending, Capital Spending & Foreign Asset Accumulation





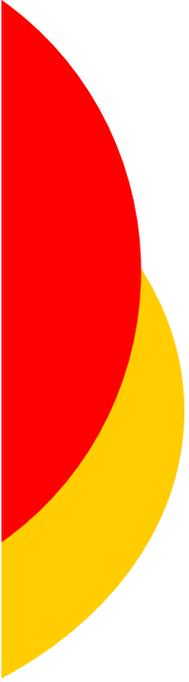
There is only one budget in a Country

- Some countries have two or more vehicles for spending oil & Gas wealth (such as a special development budget).
 - Leads to poor governance & inefficiency (earmarking)
- All spending should go through the normal budget process.
- Pace spending increases with an increased ability of government and sectoral ministries to plan and spend money wisely
- Parliamentary approval for the entire budget
 - Preserve integrity of the budget process
 - Otherwise violate objective of budget consolidation (to strengthen country systems)



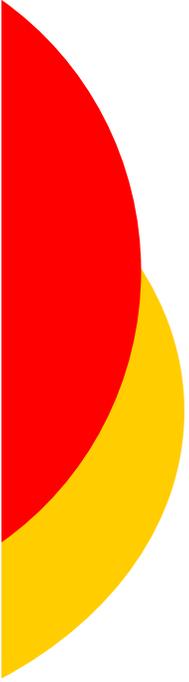
Balancing budgets and expenditure capacities

- Countries' investment needs are massive. But can't fix or build every road, railway, water system, dam or port simultaneously
- Need to prioritize, phase projects
- Need a deep inventory of well-designed, appraised, “shovel-ready” projects; or
- *Otherwise we strain the country's macroeconomic and administrative capacity, creating waste and inflationary pressures*
- the effectiveness of scaling up depends on capacity to select, appraise, design, procure, implement and evaluate projects.
- Project selection & management cycle planning budgeting, execution, accounting, reporting and assurance critical. This is the most binding constraint.



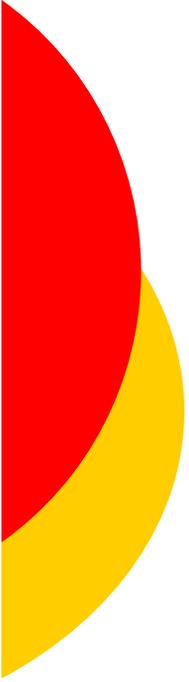
Resource funds

- Resource funds help deal with resource revenue volatility and save for future generations
- Funding should come from fiscal surpluses and remain linked to the government's overall cash management strategy
- Fund flows should be integrated into the budget and should not have independent spending authority
- It is advisable to have just one resource fund (sometimes with separate portfolios for budget financing and saving).



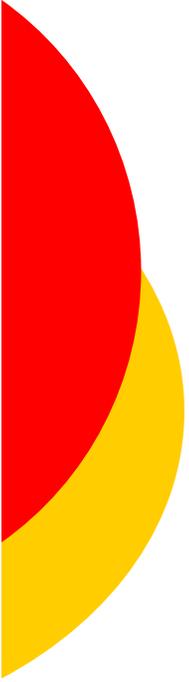
Resource Funds

- Funds no substitute for good, sound fiscal management and responsibility
- Fund management central to the macroeconomic stability of the country.
- Involves components how the fund should be :
managed; who is responsible for its operations; who undertakes day-to-day management;
- where and in what shall the fund invest; receives it resources; how its principal and earnings may be employed by government



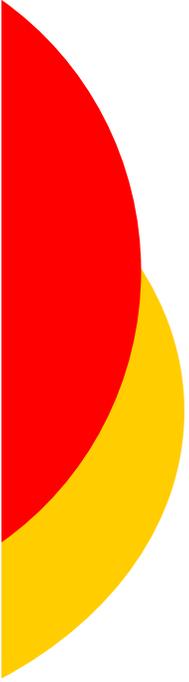
Resource funds

- How shall the payments out of the fund be decided- like other revenues be based on a rule or guidelines
- Oil funds should not have the authority to spend- avoid dual budgets: all spending should be transparently on budget
- Accountability to Parliament
- Independent audit of activities
- Clear investment strategy-majority foreign asset
- Central Bank to oversee investment strategy as agent of government.
- No politics, no white elephant investments
- Investment strategy to be conservative, but not too conservative
- These assets belong to our children and grand-children



Resource funds

- Fund Assets to be invested abroad
- Distinction between monetary policy & asset management including separation of international reserves from the Fund
- Investment inside a country to be done by the budget, and *only by the budget* – subject to parliamentary approval.
 - Investing PF assets inside the country is tantamount to extra-budgetary spending.
- Not available for intervention on the foreign exchange market.
- Should be subject to an investment strategy with a different mandate
- Full transparency and accountability to parliament
- Oil funds are sometimes confused with fiscal rules.
- Oil funds do not constrain fiscal policy—unless the government is liquidity-constrained.



Summary

- Resource revenues are an opportunity to progress on key development goals, such as poverty reduction, infrastructure and growth.
- Fiscal frameworks should be designed to avoid the resource curse of slow growth, pro-cyclical fiscal policies and inadequate savings and investment.
- Fiscal rules can help resource-rich countries mitigate externally driven volatility from commodity prices by building saving cushions.
- Public investment should only be front-loaded once implementation capacity to select, appraise, design and execute projects is enhanced & strengthened
- Spending should be through national Budget ONLY
- Funds are no substitutes' for sound fiscal policy



**FISCAL MANAGEMENT OF OIL AND
NATURAL GAS IN EAST AFRICA**

East African Community and
International Monetary Fund Workshop

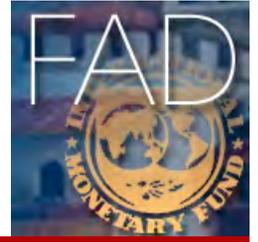
**January 15 – 17, 2014
Arusha, Tanzania**

**Public Financial Management and its
Emerging Architecture:
PFM in Natural Resource Rich Countries**
Duncan Last
Public Financial Management Division

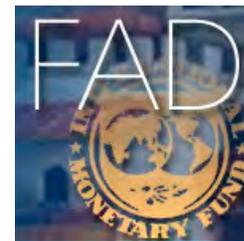


Managing Natural Resource Wealth Topical Trust Fund

Outline of Presentation



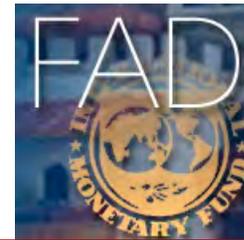
- I. Pros and cons of special resource revenue funds**
 - a. Justification
 - b. Institutional and regulatory arrangements
 - c. Potential risks
- II. Planning the use of resource revenues**
 - a. Need for a medium-term perspective
 - b. Reflecting resource revenues in the annual budget
 - c. Maintaining budget credibility
- III. Integrating resource revenues into treasury processes**
 - a. Spending resource revenues
 - b. Banking resource revenues
 - c. Accounting for resource revenues
- IV. Accountability and transparency**
 - a. Reporting framework
 - b. Audit and oversight
- V. Conclusions**



Introduction

Resource revenues – blessing or curse?

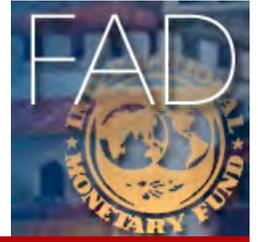
- **Resource revenues present great economic opportunities:**
 - Wisely used they can promote growth, generate employment, and raise living standards
- **... all too often, however, the blessing has become a curse:**
 - They create an unsustainable dependency, lead to neglect of other revenue sources, create economic distortions, and unfortunately can lead to conflict



I. Pros and cons of resource revenue funds

(a) Justification – classic reasons

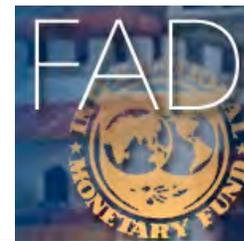
- **Volatility of revenues**
 - Justifies a stabilization fund to avoid disturbing budget planning and execution
- **Limited life-span of mineral resources**
 - Justifies a financing fund focused on investment spending to avoid unsustainable recurrent spending
- **Intergenerational concerns**
 - Justifies a savings fund to ensure resources are shared between current and future generations
- ***Often a combination of all three***



I. Pros and cons of resource revenue funds

(a) Justification – other factors

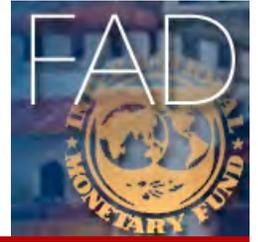
- **Size of resource revenues can matter**
 - The larger the resource revenues the greater the pressure to save and invest surpluses
 - If resource revenues are small, special arrangements may not be justified
- **Resilience of pre-existing PFM systems**
 - Weak PFM systems are often used to justify special arrangements for resource revenues



I. Pros and cons of resource revenue funds

(a) Justification – country practices

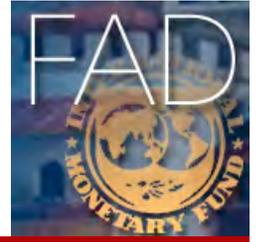
Objective	Country	Management Rules		
		Deposit	Withdrawal	Investment
Stability	Chad	10% of net royalties & dividends	When oil revenue up to 20% below forecast	Offshore
	Algeria	Oil revenue above budget forecast	Transfers to budget for capital projects Direct project finance	Part of foreign reserves
Saving	Ecuador	20% of oil revenue	When oil revenue below forecast or national emergency	None
	Kuwait	10% of revenue	Discretionary transfers to budget	Not reported
Financing	Norway	All oil-related income	Transfer to finance non-oil budget deficit	All abroad
	Timor Leste	All oil-related income	Transfer to finance non-oil budget deficit	US Treasuries



I. Pros and cons of resource revenue funds

(b) Institutional and regulatory arrangements

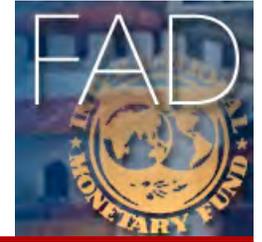
- **Resource revenue funds often require specialized institutional arrangements:**
 - Fund management and staffing – can be part of routine government staff responsibilities, but more often a separate body and staffing is prescribed
 - Special oversight institutions – boards, special auditing requirements, specialized reporting – challenge for low income countries is to find the skills for these positions
 - Arrangements for investment of surpluses – investment advisory bodies, financial agents



I. Pros and cons of resource revenue funds

(b) Institutional and regulatory arrangements

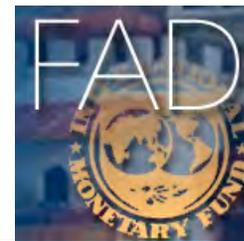
- **Regulatory arrangements for resource revenue funds can be within the PFM legal framework:**
 - PFM law or fiscal responsibility law, often complemented by specialized legislation
- ... or in specialized legislation outside of the general PFM legal framework
- ... or occasionally enshrined in the Constitution
- ***Simple resource revenue legal frameworks – e.g. Timor Leste – tend to be more successful than overly complex ones – e.g. Chad***



I. Pros and cons of resource revenue funds

(c) Potential risks

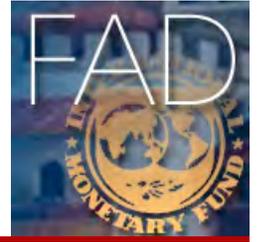
- **Risks are most significant where spending is authorized directly from special fund:**
 - Potential for dual budgets with diverging objectives, and unsustainable spending, particularly where MoF is not responsible for the resource revenue fund
 - Known budgetary weaknesses are not addressed, simply by-passed, potentially creating new ones
 - Potential for significant fiscal distortions – recourse to financing or arrears when resources are readily available
- **Staffing specialized institutions can be a real problem in low capacity environments, drawing limited talent away from mainstream PFM areas**



I. Pros and cons of resource revenue funds

(c) Potential risks – country experience

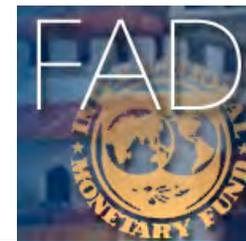
1. **Avoid mechanistic deposit or withdrawal rules or formulae**
 - a. Some ended up borrowing to satisfy deposit rules / withdrawal limits
 - b. Others ended up spending on white elephants to meet withdrawal requirements
2. **Route oil revenue and spending through the budget, CF, & TSA**
 - a. No retention of revenue at source
 - b. No direct financing of domestic investment projects
3. **If earmarking is necessary for political reasons keep it:**
 - a. **Broad:** i.e. total investment/poverty spending not specific projects/programs
 - b. **Soft:** i.e. use ex post accounts rather than match monthly spending to revenue
4. **Don't invest in domestic companies or government securities**
5. **Don't overestimate return on fund assets**
 - a. Exchange rate risk from foreign assets
 - b. Liquidity preference
 - c. Fund managers very cautious
6. **Be transparent in investment and accounting**



II. Planning the use of resource revenues

(a) Need for a medium-term perspective

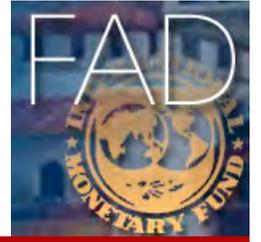
- **Effective use of resource revenues require longer term planning because of their temporal and fluctuating nature**
- **Fiscal rules can help regulate the overall level of resource revenues to be used...**



II. Planning the use of resource revenues

(a) MT – fiscal rules for oil producers

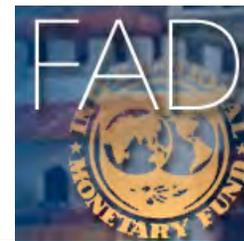
FISCAL INDICATOR	COUNTRY TARGET	EVALUATION CRITERIA				
		Simple	Counter-cyclical	Clear Policy Guide	Medium-term	Sustainable
Conventional Fiscal Rules						
Overall balance	Mexico <i>Zero Balance</i>	✓	✗	✓	✗	✓
Gross Debt	Botswana <i>45% of GDP</i>	✓	✗	✗	✓	✓
Oil-Based Fiscal Rules						
Resource Golden Rule	Equatorial Guinea <i>Oil Rev. = Invest.</i>	✓	✗	✓	✗	✗
Non-Oil Balance	Sao Tome & Prin. <i>Discretionary</i>	✓	✓	✓	✗	✓
Structural Balance	Chile <i>1% Structural Surplus</i>	✗	✓	✓	✗	✓
Structural Non-Oil Balance	Norway <i>Ave. Non-Oil Deficit = Ave. ROR on Oil Fund</i>	✗	✓	✓	✓	✓



II. Planning the use of resource revenues

(a) Need for a medium-term perspective

- **... while medium-term budget frameworks should provide the assurance of funding**
- **MTBFs must be based on prudent and realistic revenue projections**



II. Planning the use of resource revenues

(a) MT perspective – Revenue Forecasts

Ensuring Prudent Forecasts of Oil Revenue

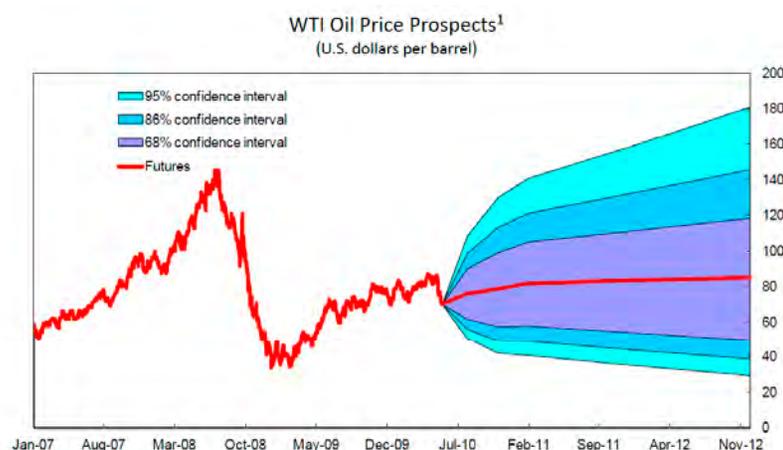
I. Formula-based

- a. Historical Average
- b. Futures Market (Congo)
- c. Consensus Forecast
- d. Fixed Elasticity

II. Administrative

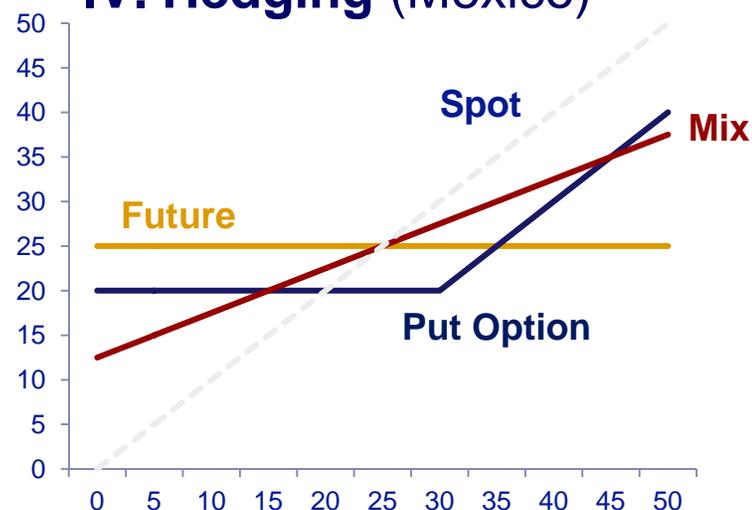
- a. Fiscal Council (Chile)
- b. Negotiated (Nigeria)
- c. Parliament
- d. IMF Program

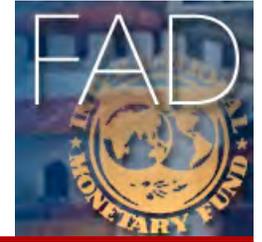
III. Probabilistic (UK)



Sources: Bloomberg; and IMF staff calculations.
¹Derived from prices of futures options on May 17, 2010.

IV. Hedging (Mexico)

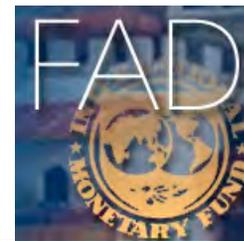




II. Planning the use of resource revenues

(b) Annual budgeting of resource revenues

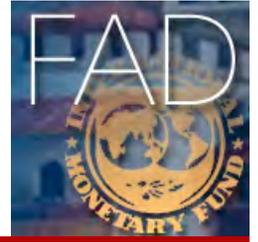
- **Budget documents should cover application of fiscal rules, adherence to MTBF, and the overall status of resource revenues**
 - Credibility of fiscal rules will be enhanced by including explanations for any deviations
 - Effectiveness of the MTBF depends on the reliability of outer year forecasts, which in turn is linked to the accuracy of revenue forecasts, including resource revenues
 - Acceptance of resource revenue management arrangements is contingent on fully divulging of savings, investment and spending, preferably in budget documents
- ***All spending from resource revenues should be appropriated***



II. Planning the use of resource revenues

(c) Maintaining annual budget credibility

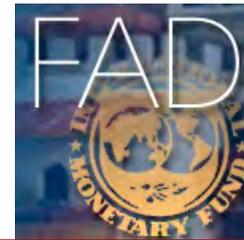
- Budget credibility is undermined by inadequate revenue and expenditure projections, excessive recourse to in-year budget changes, and weak cash management, among others
- Resource revenue rich environments bring additional challenges to budget credibility:
 - Pressure to increase spending if windfall revenues are available
 - Tendency to spend annual allocation even if original spending purpose is not ready, or no longer valid
 - Over commitment - the special fund will come to the rescue!
- ***Staying within annual budget allocations and more guarded use of windfall revenues should improve budget credibility***



III. Integrating RRs into treasury processes

(a) Spending resource revenues

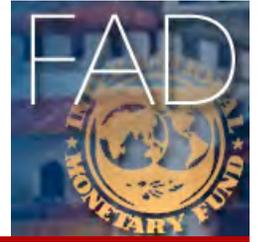
- **Effective cash management aims to deliver cash when required to meet budget objectives, in line with appropriations and resource availability.**
- **This is no different for countries with resource revenues, except that:**
 - **planned drawdowns of revenues from the special fund will obviously need to be coordinated with the fund's investment activities**



III. Integrating RRs into treasury processes

(b) Banking resource revenues

- **Banking arrangements for resource revenues vary from country to country:**
 - In some countries, resource revenues, like any other revenue must first transit through a bank account which is part of the consolidated fund before all/some of it is transferred to the special fund
 - Some countries have created a special resource revenue account (RRA) through which all resource revenues are channeled to facilitate their accounting and reporting
- **Where a Treasury Single Account (TSA) has been established, then it makes sense that all resource revenue related bank accounts are part of the TSA, preferably as sub-accounts**



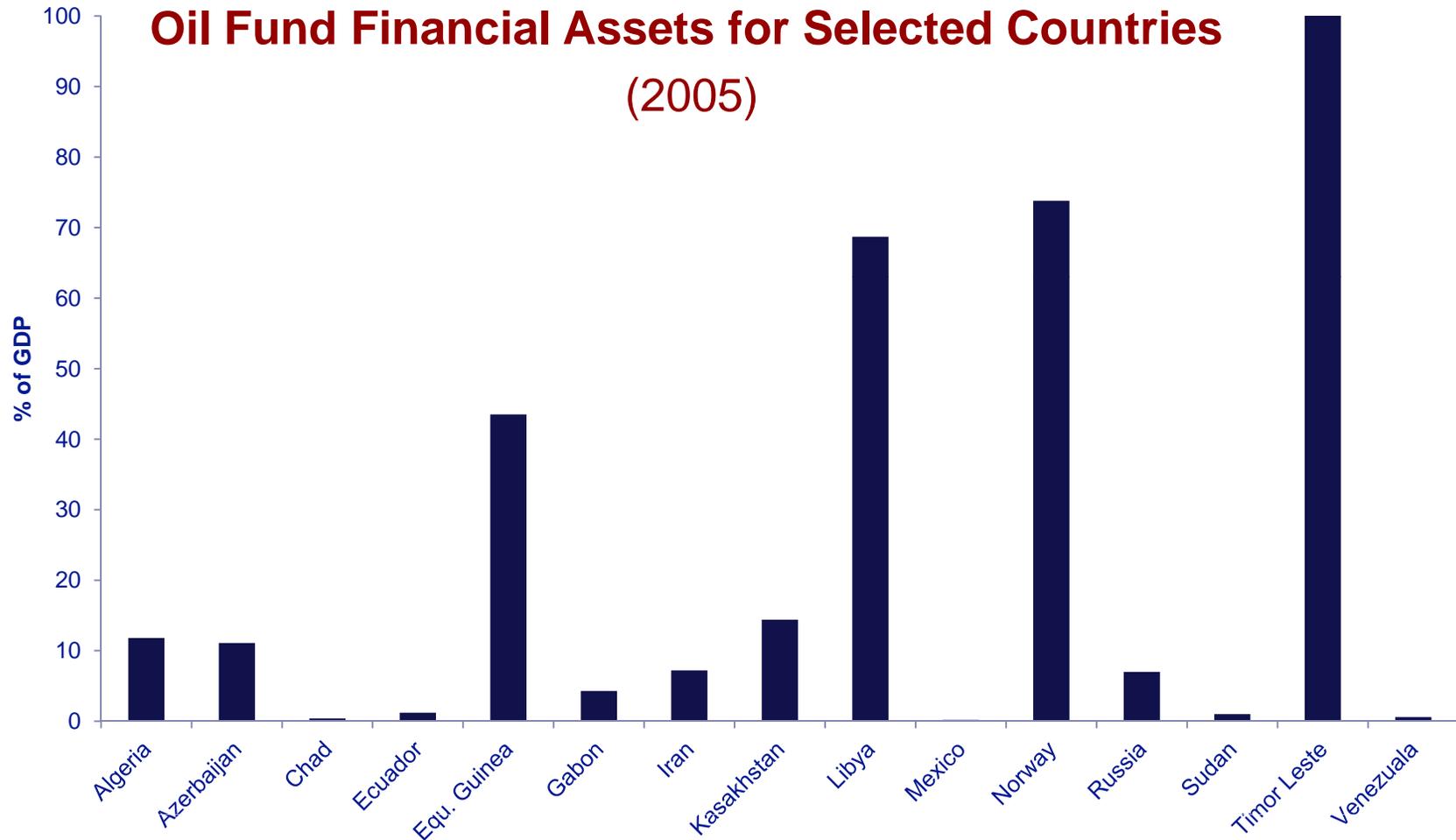
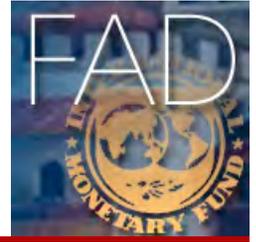
III. Integrating RRs into treasury processes

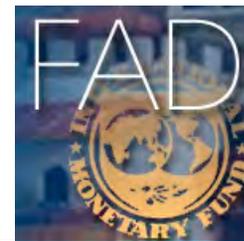
(c) Accounting for resource revenues

- **Resource revenue management generally leads to accumulation of savings, even if these are limited to stabilization**
- **These financial assets need to be reflected in the government's financial statements, alongside any financial liabilities it may have**
- **Accounting procedures will therefore need to adapt, both to keep track of financial assets and liabilities, and to facilitate their reporting**

III. Integrating RRs into treasury processes

(c) Accounting for resource revenues

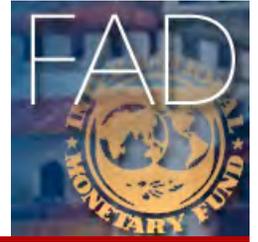




IV. Accountability and Transparency

(a) Reporting framework

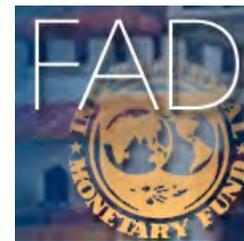
- **Typical internal reporting would include monthly and quarterly statements of collections, savings, investments, disbursements and balances:**
 - These would be prepared by the resource fund managers, approved by the board, and circulated to MoF and Cabinet
 - Quarterly reports could also be published
- **Financial statements and annual performance reports would be prepared by the resource fund managers, approved by the board and submitted to MoF and the auditors, and eventually to parliament**
- **Periodic reports on investment performance would generally be prepared by the appointed financial agents, and submitted to the MoF and the auditors**



IV. Accountability and Transparency

(a) Reporting framework – MoF access to data

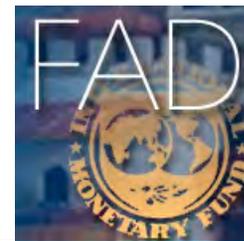
- **While periodic reporting will satisfy some MoF needs, MoF's on-demand access to up-to-date resource revenue data would be most useful and may need to be clarified or even formalized in enabling law:**
 - For medium-term fiscal planning and budget preparation, this can be done through a small unit in either macro or budget department which liaises with the fund managers
 - for in-year cash management, in-year reporting, and preparation and consolidation annual accounts, the liaison would generally be with accounting department



IV. Accountability and Transparency

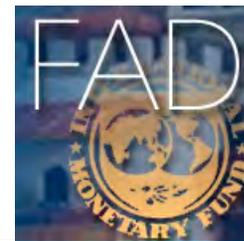
(b) Audit and oversight arrangements

- **Where the external audit institution is weak, it is common practice to use internationally known auditors to supplement the usual audit by the domestic institution**
 - *this allows time to address capacity shortfalls within the audit institution, while providing fiduciary assurance*
- **Some countries have also established special oversight boards with civil society participation to counterbalance political interest and allow for a broader consultation process. However, in low income countries, such boards could pose challenges, given general capacity constraints**
- **Parliamentary oversight is usually prescribed by law – in-year reports, regular briefings, and annual reports**



Key conclusions

- **Significant levels of resource revenues need to be managed**
 - Requires new institutional arrangements for investment of surpluses, new capacities, and enhanced oversight
- **Resource revenues should be planned and spent through the budget process**
 - Requires medium-term perspective, budget credibility, effective cash management, and accounting for assets and liabilities
- **Resource revenues need to be effectively monitored and reported**
 - Requires a focus on accountability and transparency, and a comprehensive reporting framework



Questions are welcome

Drawn from Chapter 13 of “Public financial management and its emerging architecture”, Editors – M. Cangiano, T. Curristine, M. Lazare, IMF/FAD 2013



UGANDA'S EXPERIENCE IN REFORMING PFM FOR OIL

16th January 2014

By Maris Wanyera

Ministry of Finance, Planning and Economic Development

outline

2

- Brief overview of current PFM legal framework
- Fundamental reforms
- Selected highlights of the reforms
- Petroleum Revenue Management

Review of Current Legal Framework



- × Fragmented in various laws.
 - Conflicting provisions
 - Minimal linkage between budget preparation, execution and oversight
- × Gaps
 - Macro-fiscal policy formulation
 - Public Investments and Multiyear commitments
- × Weakness
 - Loose alignment of the Annual Budget to the NDP
 - Non operational Contingencies Fund
 - Mismatch between budget preparation, approval and execution calendars and cash management

Fundamental Reforms in the PFM Bill

4

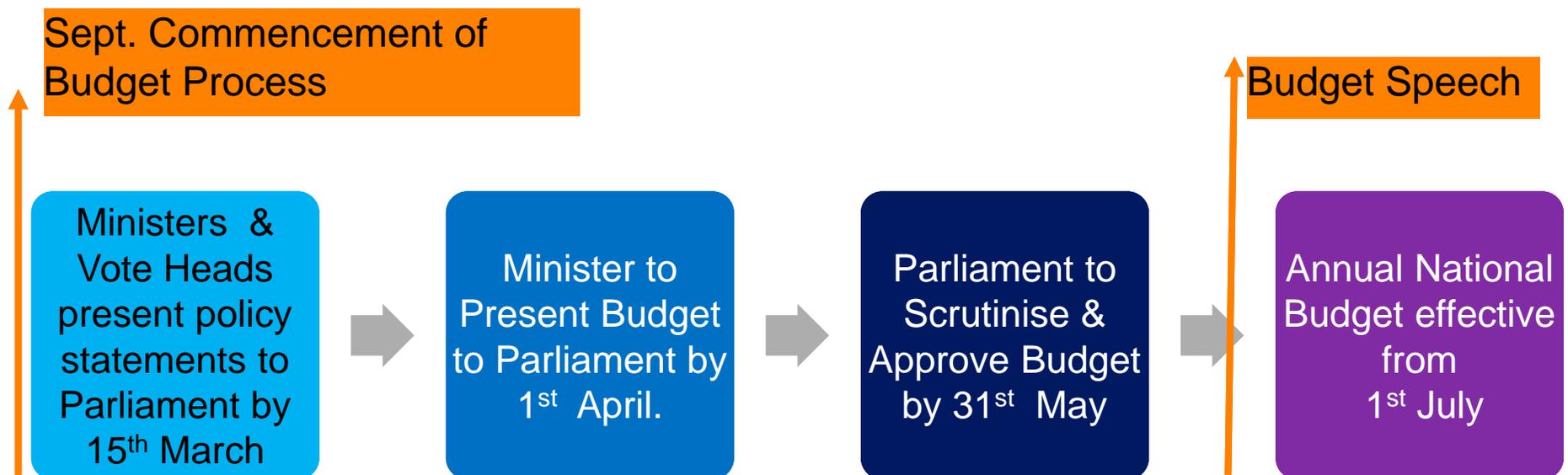
- ❑ Establishing principles and procedures for sound management of the economy
- ❑ Execution of a Charter of Fiscal Responsibility by the Minister to Parliament.
- ❑ Ensure Integrity and Predictability of the Budget.
- ❑ Establish Criteria for Supplementary budgets
- ❑ Operationalise the Contingencies Fund
- ❑ Ensure seamless linkages/no overlaps in the PFM cycle
- ❑ Strengthening budget oversight
- ❑ Alignment of the budget to the NDP
- ❑ **Integration of petroleum revenue into the national budget**
- ❑ Full reporting on performance of entire Government unlike the current Central Government reporting for better Parliamentary Oversight

Development of Fiscal policy

- Bill assigns responsibility for fiscal policy and calls for consistency with the macroeconomic framework
- Requires the Minister to lay before parliament a charter of fiscal responsibility detailing
 - Medium Term Fiscal Framework
 - Government's measurable objectives
 - Criteria for measurement of economic performance of government
- Lays out principles against which the charter should be based
 - Maintenance of prudent levels of debt
 - Sustainable non-oil fiscal balance
 - Sustainable management of petroleum revenues
 - Management of fiscal risks

Credibility and Predictability of Budget

- The Bill brings forward the budget preparation and approval process so that the national budget is approved and effective by 1st July
- Multi-year expenditure commitments to be authorised by Parliament



Petroleum Revenue Management

*Aim to have transparent, equitable, efficient,
prudent and sustainable petroleum revenue
management*

Petroleum Revenue Management



The Present legal framework is ill-equipped to safeguard these objectives and the proposed PFM bill makes proposals to address the above.

Establishment of the Petroleum Fund.

- ❑ The proposed integrated PFM provides for the establishment of the **Petroleum Fund** to;
 - ✓ receive all petroleum revenue accruing to Government;
 - ✓ Finance the **National Budget** – There will be no other parallel budgets
 - ✓ finance investments for the benefit of current and future generations.
- ❑ The **Petroleum Fund** will be held in **Bank of Uganda**

Appropriation of Petroleum Revenues

10

- ❑ Withdrawals from the Petroleum Fund only be by **Appropriation Parliament and a warrant of the Auditor General.**
- ❑ The Accountant General shall be expected to submit to the Minister, Secretary to the Treasury and the Auditor General **semi annual and annual financial statements** of the Petroleum Fund
- ❑ The Minister shall be expected to table before **Parliament the estimated Petroleum Revenue** at the beginning by September to facilitate the next budget cycle.

Utilization of the Oil Revenues

11

- The revenues withdrawn from the Petroleum Fund to the Consolidated Fund will Finance the **Budget/Medium Term Expenditure Framework**
- The MTEF supposed to be aligned to priorities of the NDP
- The Bill provides for investing in infrastructure development in the budget consistent with the priorities of the National Development Plan

Budgeting aspects are detailed in the Budget Part of the Bill

Reporting requirements to Parliament

12

- Semi-annual and annual reports to Parliament.
- Transfers to the consolidated fund
- Actual inflows and outflows from the petroleum Fund
- In consultation with the sector ministry the volumes and values of the petroleum produced
- The source of the petroleum revenue

Governance of the Petroleum Fund

13

- ❑ The **Ministry of Finance** shall have **management responsibility** for the Fund
- ❑ The **Bank of Uganda** shall be the **Fund Manager** on behalf of government
- ❑ The Fund shall not be earmarked, pledged, committed, loaned out or used **as collateral or encumbered** by any person or entity
- ❑ Domestic Investments will be done through the National Budgets and **savings will be invested abroad** to avoid overheating of the economy.

Oversight Roles-External Audit

14

- **Auditor General to Audit the petroleum Fund**
- Parliament
- All performance and financial reports will be published and disseminated to the public of the Bank of Uganda and Ministry of Finance websites

Sharing of Revenue from Royalties: Constitution requirement

15

- ❑ A revenue sharing formula has proposed in the Bill
- ❑ Royalties will be appropriated to beneficiary districts as Grants as part of the annual budget.
- ❑ Royalty allocations shall not exceed the non-Oil revenue for the respective districts in any year

Conclusion

16

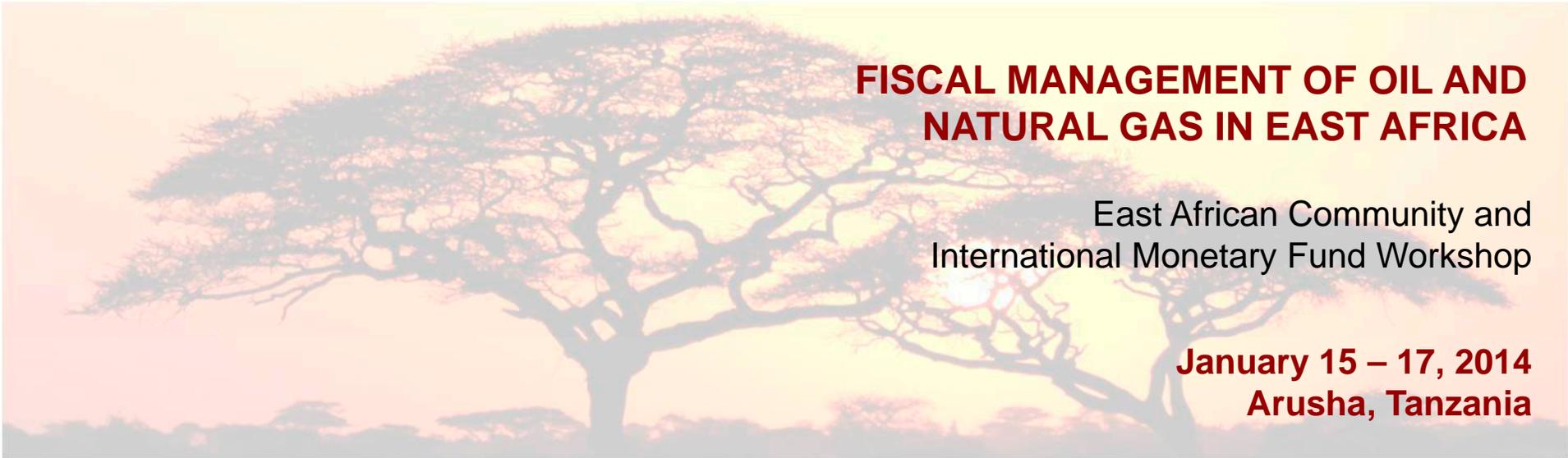
- *The Bill strengthens the role of Parliament in the entire planning, budget preparation, accounts management and accountability processes.*
- *The Bill is before Parliament for consideration.*
- *The Bill is a bold and fundamental step towards restoration of fiduciary assurance and foundational values of Public Financial Management. It seeks to address most of the known challenges in the budget preparation, execution and oversight and harmonizes Uganda's PFM with the rest of the EAC region.*

END

17



Thank you for listening



**FISCAL MANAGEMENT OF OIL AND
NATURAL GAS IN EAST AFRICA**

East African Community and
International Monetary Fund Workshop

**January 15 – 17, 2014
Arusha, Tanzania**

***Pipelines and Cross-Border Infrastructure:
Tariffs, Taxation, and Access***

Philip Daniel

Fiscal Affairs Department, IMF



Managing Natural Resource Wealth Topical Trust Fund

Agenda

- Issues in developing pipelines and infrastructure for maximum benefit to the region and Partner States
- International context
- Emerging cross-border structures
- Investment and access
- Taxation, fiscal schemes
- Setting transportation tariffs.
- Transit fees?



THE TAXATION OF PETROLEUM AND MINERALS: PRINCIPLES, PROBLEMS AND PRACTICE

Edited by Philip Daniel,
Michael Keen
and Charles McPherson



Sources and acknowledgments:

Graham Kellas, *Natural gas; experience and issues*, [in the book] 2010

Recent FAD TA Projects

Wood Mackenzie, BP Statistical Review
for diagrams

Draft papers for *International Issues in Fiscal Regimes for Extractive Industries*
– especially those by Honore Le Leuch, and
by Joseph Bell and Jasmina Chauvin.



Outlook – company views

ExxonMobil Energy Outlook 2013 (to 2040)

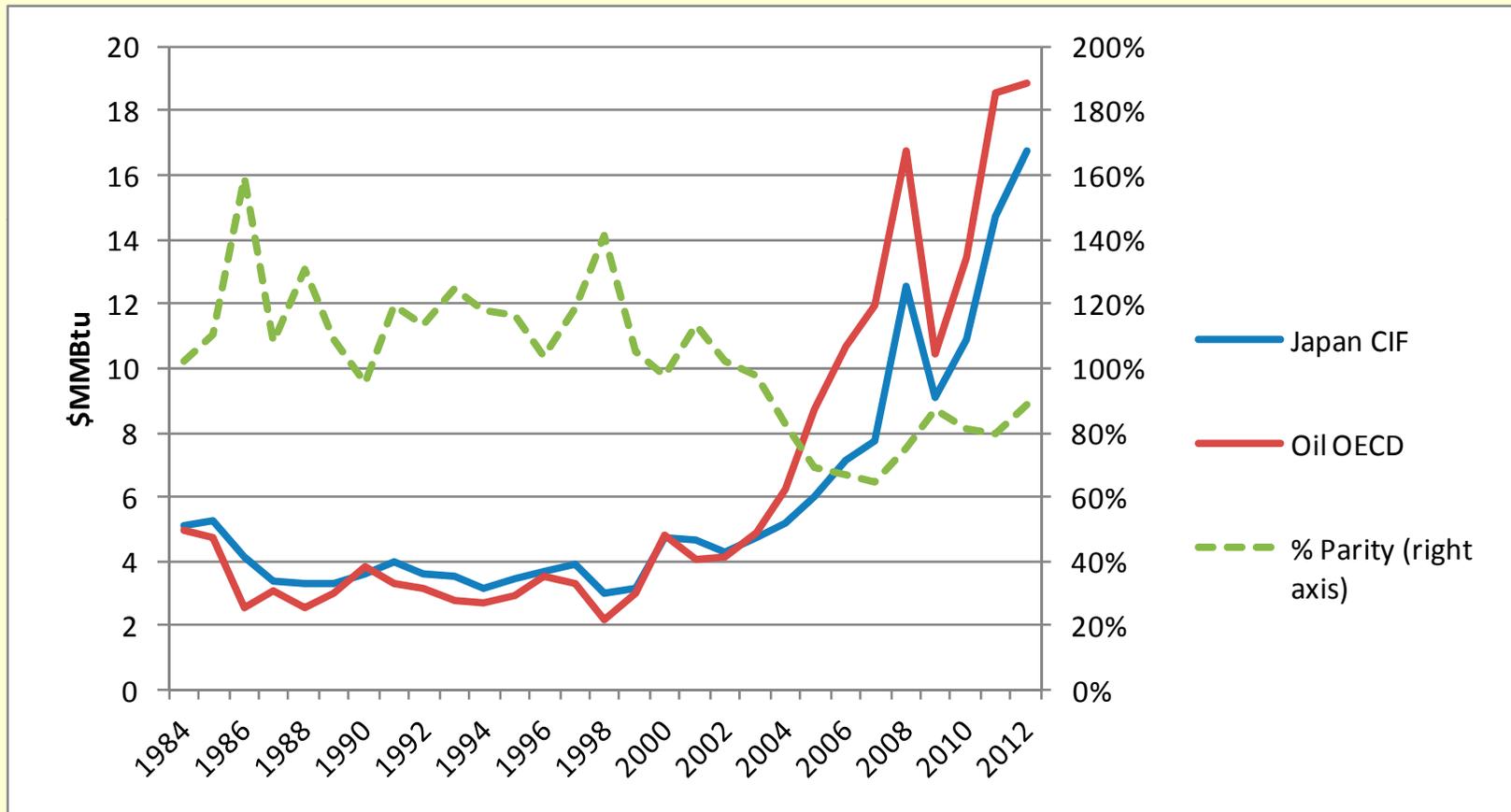
- Technology is enabling development of once hard-to-produce energy sources – increasing supply
- Oil will remain the #1 global fuel; gas will replace coal as #2- gas demand and supply up by 65% by 2040
- Around 2030, nations of North America will shift from net importers to net exporters of oil and oil-based products
- Implied cost of CO₂ emissions rises to \$80/ton in OECD by 2040 helps drive switch from coal to gas

Outlook – company views

BP Energy Outlook 2013 (to 2030)

- “investment will flow to the places that have the right resources below ground and the right conditions above it”
- Population and income growth are key drivers of energy demand, especially outside OECD (93% of demand growth - to twice OECD level)
- Global energy intensity declines by 31% 2011 to 2030
- Shale and other unconventional gas get attention but “bigger story” is growth of conventional supplies from non-OECD, with LNG exports growing fast
- For the past decade customers per exporter have grown faster than suppliers per importer – but both have grown rapidly (meaning trade diversification)

Japan: LNG prices and oil prices

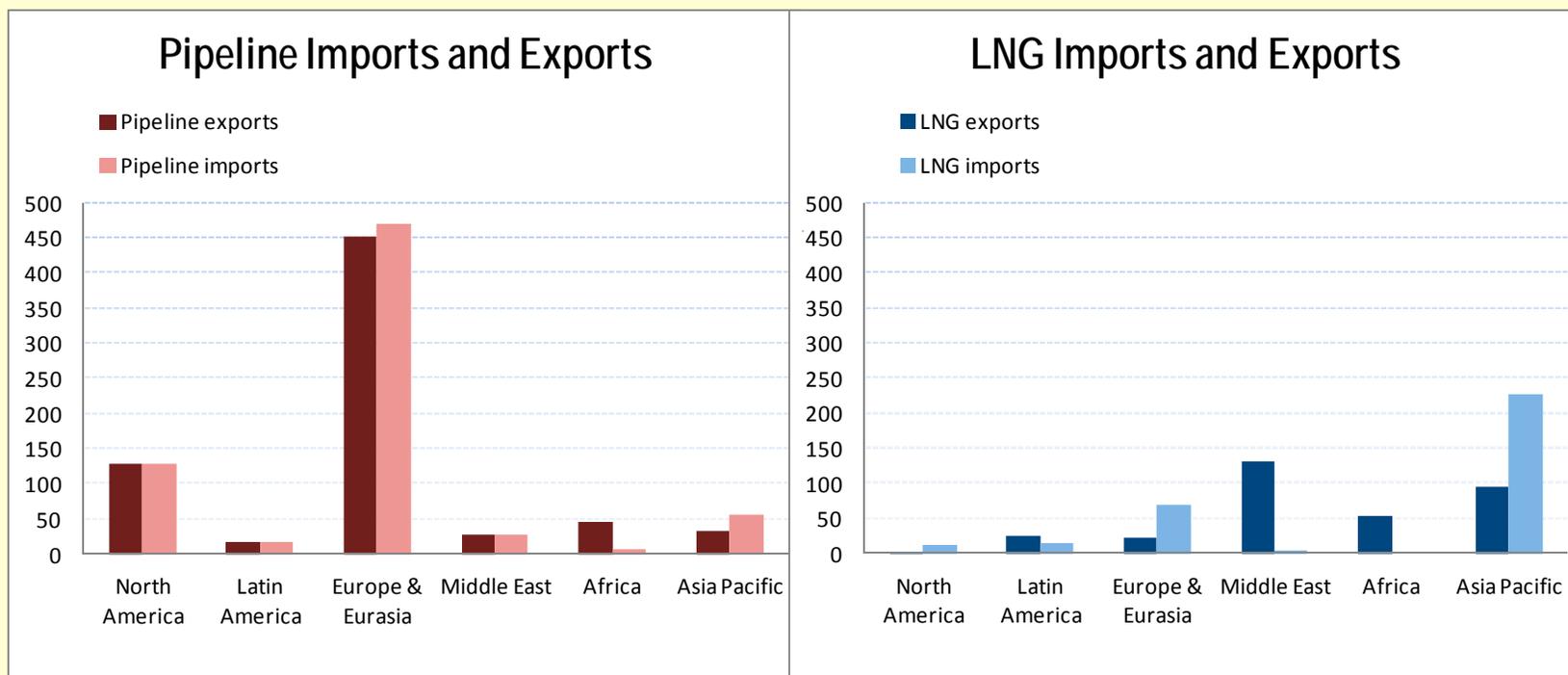


Source: BP Statistical Review 2013



Natural gas trade flows

(million cubic meters)



Source: BP Statistical Review 2013



East Africa – Petroleum infrastructure projects

- Development of the Lamu-Isiolo-Juba crude oil pipeline, with possible extension to Ethiopia – incorporated in LAPSSET corridor plans
- Mtwara – Dar es Salaam gas pipeline, and possible extensions
- Tanzania – possible LNG export project
- Uganda-Kenya product pipeline: Upgrading of the Mombasa-Eldoret Oil pipeline, plus possible extensions to Rwanda and Burundi
- Uganda: pipelines from the oil fields to the proposed refinery; and products pipeline to market.

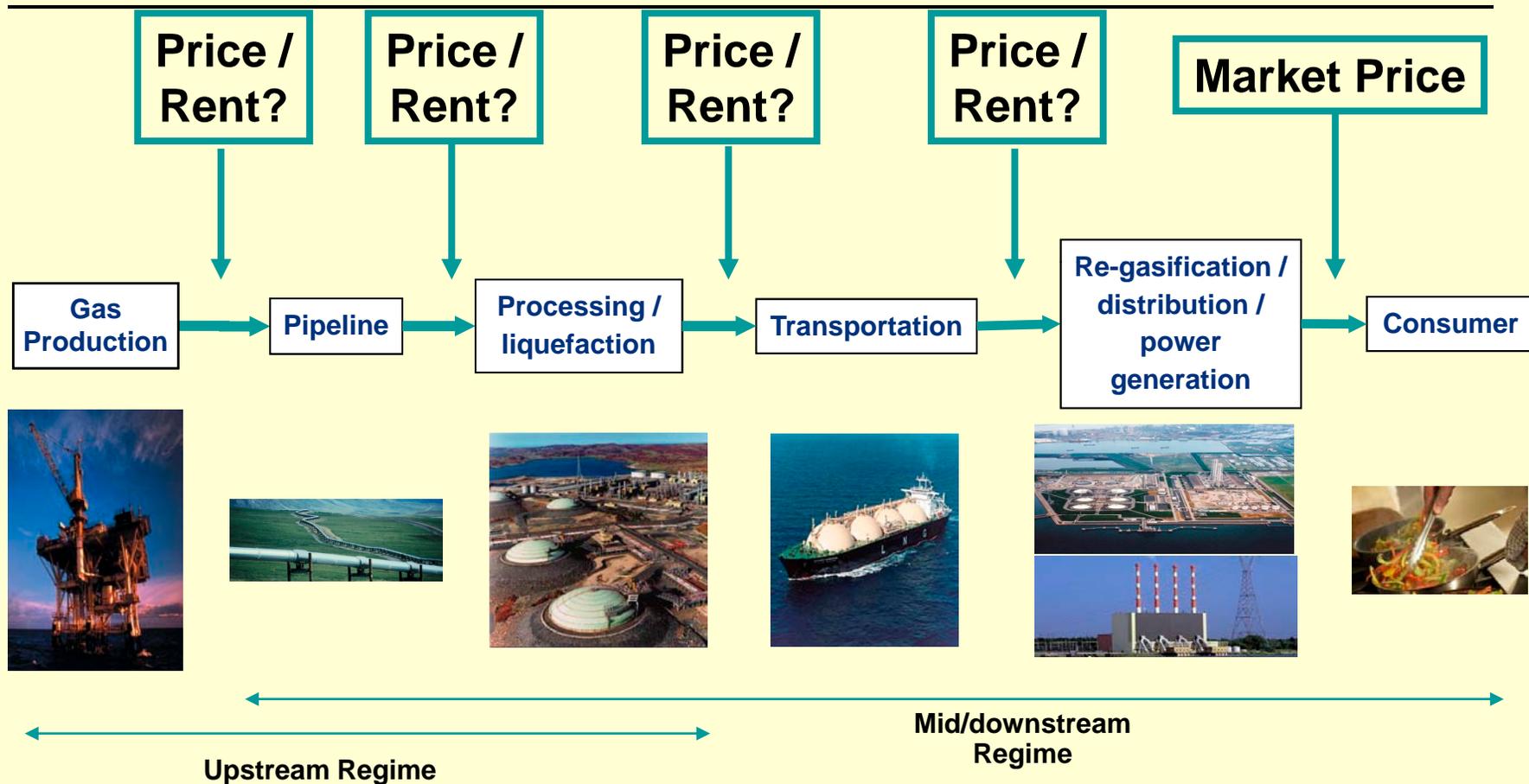
Some terminology...

- Seller – usually upstream producer of oil or gas, either at field delivery point or at eventual export point.
- Shipper – could be buyer or seller
- Transporter – owner of pipeline or rail facilities, providing carriage of oil or gas, usually without assuming ownership.
- Buyer – first purchaser of oil or gas from upstream producers; may or may not be at arm's length
 - Gas: LNG plant or domestic distributors
 - Oil; refinery or oil trader at point of tanker loading (other options too).
- Transfer price – price for petroleum at a transfer point between facilities when transaction is not at arm's length.
- “Take or pay”; “ship or pay” – contract terms that allocate risk
- “LNG Plant” – liquefaction of gas as first stage in a transport chain that replaces international pipelines.



Natural Gas Projects

Natural Gas Value Chain



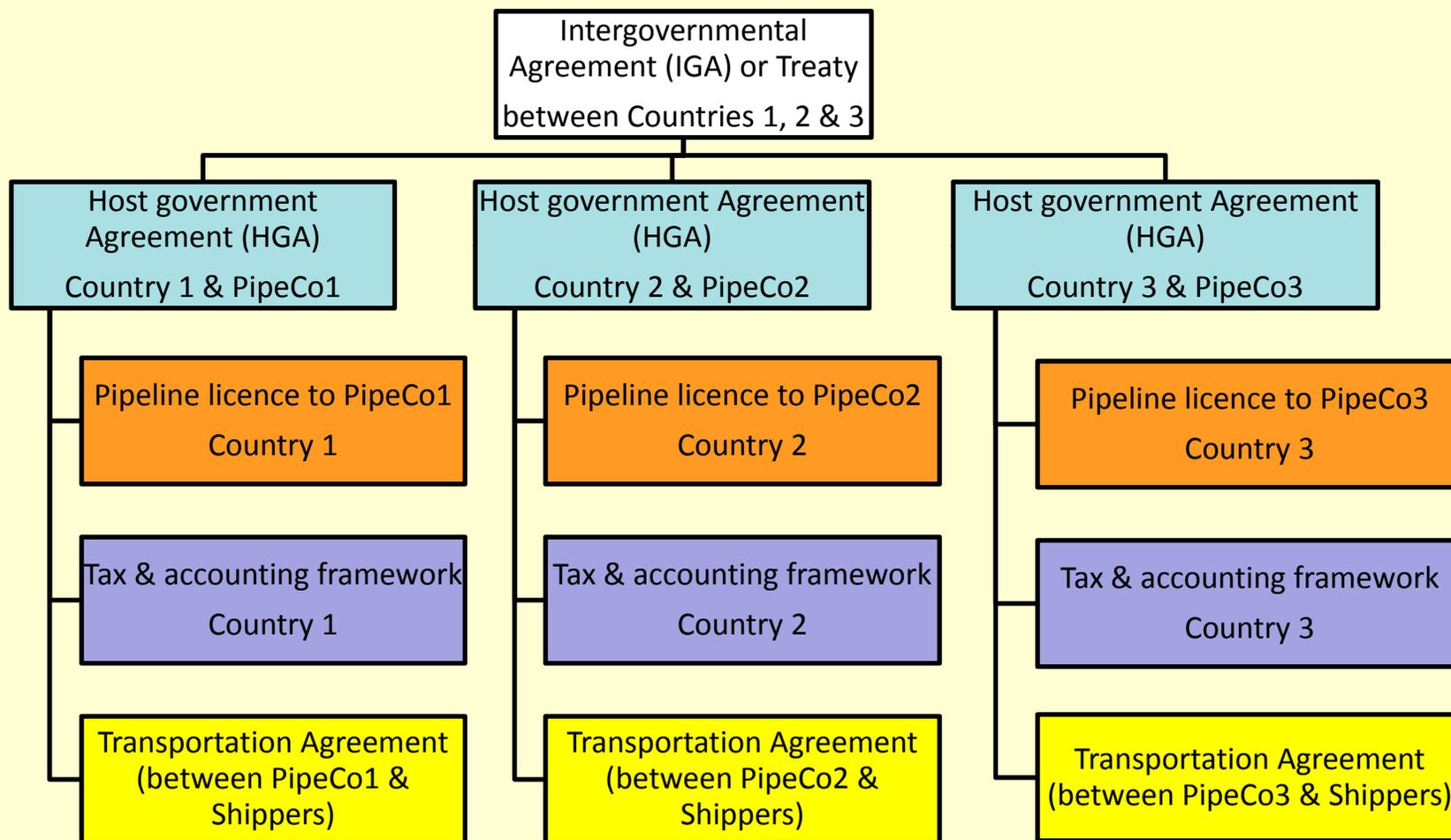
Note: number of links in each chain depends on the project (e.g. gas may be sold directly to consumer after processing)

Source: Wood Mackenzie
(Kellas, 2010)



Schematic Arrangements for Cross-Border Pipeline Projects

(Le Leuch 2014)



Investors and Third Party Access (TPA)

- In the absence of international rules, projects are established by treaties and agreements
- Investors in infrastructure (pipelines, refineries, gas processing) naturally seek exclusive rights to use the facilities
- Governments (and future investors) have strong interest in third-party access (TPA)
- TPA terms tough to negotiate – especially across jurisdictions
- Long-term objective likely to be an infrastructure network open to all on competitive terms

Taxation issues for infrastructure

- *Usually distinct from upstream regime*
 - Especially for cross-border projects, where integration impractical
- *Indirect taxation – especially during construction*
 - Customs duties
 - Value-added tax (VAT)
- *Corporate income tax (CIT) regime*
 - Interacts with tariff scheme in effect on producers and consumers
 - Primary assumption is application of standard CIT in each jurisdiction
 - Requires apportionment of revenues and costs
 - Integrated fiscal scheme across countries is possible (WAGP) but exceptional
- *Infrastructure may need specific depreciation rules, provision for de-commissioning, environmental and social costs*

Transportation tariffs

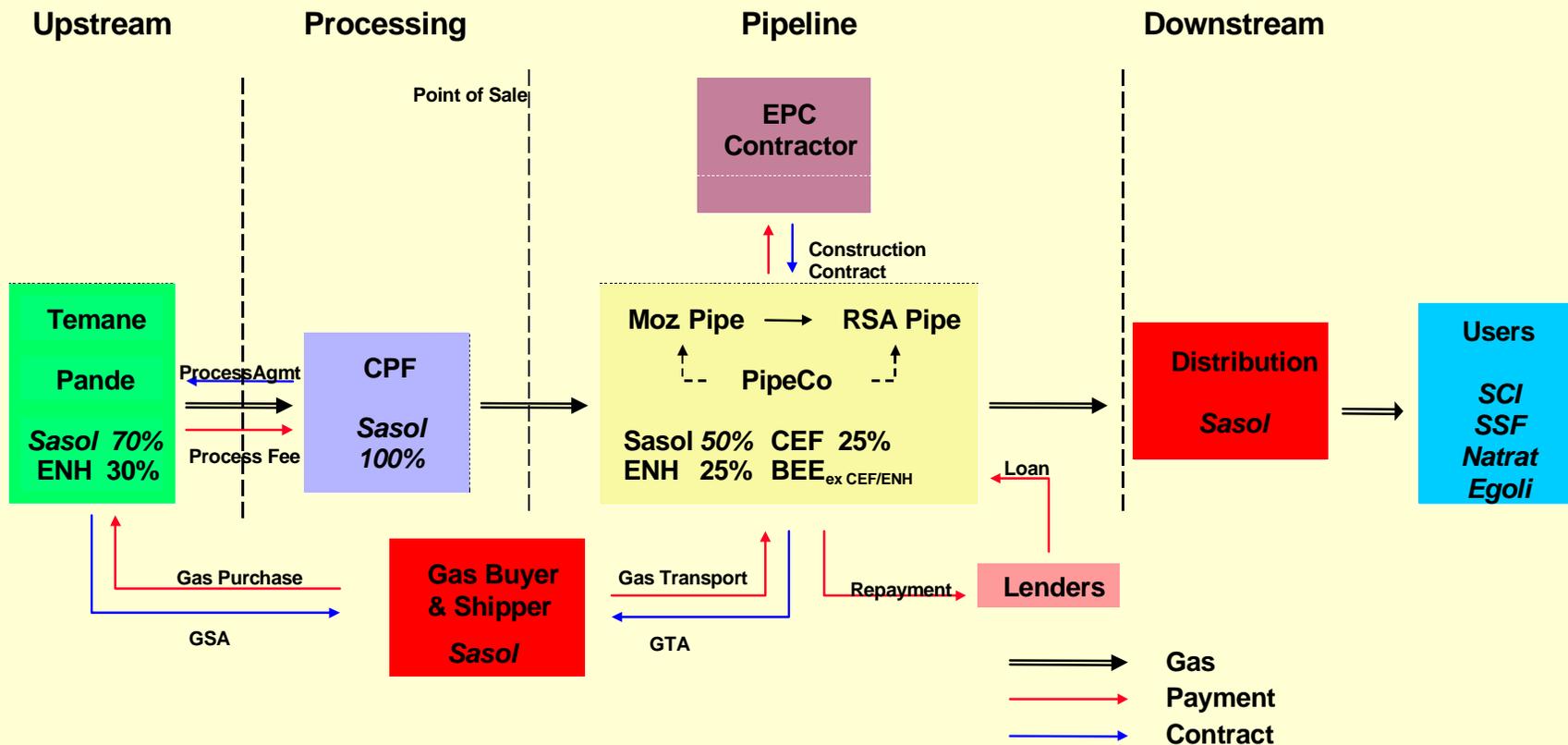
- Cost of supplying the transportation service
- Pipeline tariffs usually regulated, whether by general rules or agreements (natural monopoly elements), until a network exists
- Usually low-risk once throughput defined – so rates of return modest
- Most tariff schemes are variants of cost of service (COS)
 - Operation and maintenance costs (including taxes)
 - Return on capital – whether equity alone, undepreciated rate base, or a DCF calculation
- Alignment with TPA may require differentiated tariff among initial and subsequent users

Transit fees

- Sometimes applied but relatively uncommon – could be an agreement among the transit countries and owners.
- Examples: Russia to Western Europe; Algeria (via Tunisia or Morocco) to Europe; Chad-Cameroon; Azerbaijan-Georgia-Turkey.
- Feasibility of transit fees depends on whether a real service is provided that lowers costs to sellers and buyers.
- Transit countries (especially from land-locked partners) frequently have stronger interest in...
 - Access to supplies (off-take rights)
 - Third-party access (TPA) to facilities.

Mozambique to South Africa gas project

Structure at inception



Timor-Leste / Australia

- Production from Joint Petroleum Development Area (JPDA) where 90 percent of petroleum to Timor-Leste, 10 percent to Australia.
- Architecture...
 - Timor Sea Treaty (jurisdiction to Australia over pipeline from JPDA to Australia)
 - JPDA Production Sharing Contract
 - Domestic taxes of Timor-Leste and Australia, under TST Taxation Code
 - Upstream joint venture partners also own pipeline in UJV, and LNG plant as Darwin LNG
 - PSC provides netback pricing scheme for upstream gas – fixed ROR for pipeline and LNG plant
 - Gas sales and transportation agreements implement tariffs under PSC
 - Third-party access provisions with priority for base load
 - No transit fee
- Illustrates multiple jurisdictions, segmented project, but common set of commercial terms under agreed fiscal scheme.

West Africa Gas Pipeline (WAGP)

- Designed initially to transport associated gas (otherwise flared) from Nigeria, across Benin and Togo, to Ghana.
- Architecture
 - Intergovernmental Agreement (IGA) among the four states
 - Host Government Agreements (HGA) between pipeline owners and each government
 - Incorporates a uniform fiscal regime (income tax) with Tax revenues apportioned among the states
 - Also a transportation tariff scheme designed to balance revenue and incentive to throughput, using a rate of return on pipeline investment (+ operating costs)
 - Differentiates initial and subsequent users
 - No transit tariff but access rights for the transit states for off-take of gas.
- Gas sales agreements between sellers and buyers eventually reached.
- Illustrates a fully integrated transnational scheme for petroleum transportation, but complete separation from upstream production or downstream use.



Main conclusions

- Importance of prices and costs at each transfer point in the project
 - Clarity for both governments and suppliers of capital
 - Involves a fair and practical allocation of transportation revenues and costs across countries
- Exclusive rights to transport infrastructure should be limited – third-party access is vital in the long term
 - Recognizing some need for exclusivity in attracting required investment
- Normal business taxation can apply to oil and gas infrastructure
 - A uniform multi-country regime possible, but probably harder for revenue authorities to implement
- Transportation tariffs usually reflect a normal return on capital, recognizing degree of risk
 - Most governments will aim to maximize upstream revenues, while encouraging local use
- Third party access rights are usually more important than transit fees.



EAC Region Fiscal Harmonisation Issues

**Robert Maate,
Coordinator Fiscal, Monetary and
Statistics matters
EAC Secretariat,
January 2014**

Focus

- ❑ Overview of EAC integration agenda
- ❑ Progress on Fiscal Harmonisation Issues in EAC
- ❑ Challenges

Overview of EAC integration agenda

- EAC Treaty of 2000, membership and historical perspective
- Stages of integration and achievements made:
 - Customs Union – 2005 progressive to 2010 now establishing single customs territory
 - Common Market – 2010 progressively to 2015
 - Monetary Union – 2013 progressively to 2024
 - Political Federation – Fast strides
- The EAMU includes a road map to single currency in a period of 10 years with consciousness while drawing lessons and experiences from existing currency unions such as EMU, CARICOM

Legal context of fiscal harmonisation issues.

- Treaty
 - Chap 14 Monetary and Financial cooperation
- Common Market
 - Art 30 Economic and Monetary policy coordination
 - Art 32 Harmonisation of tax policies and laws
 - Art 41 Cooperation in statistics
- Monetary Union Protocol
 - Part C on Prerequisites
 - Part D on Convergence
 - Part G on Statistics

EAMU and harmonisation of fiscal matters

- The EAMU Protocol spells out harmonisation and coordination of fiscal matters as critical for sustainable and sound monetary union which include:
 - fiscal policies;
 - Coordination of fiscal policies with monetary and exchange rate policy;
 - budget frameworks;
 - public procurement policies;
 - implement their economic policies to achieve and maintain macroeconomic convergence;
 - adopt and adhere to the principles of fiscal discipline;
 - avoid harmful tax competition;
 - Disclosure of fiscal policies to each other;
 - disclose their aid flows to the East African Central Bank; and
 - ensure efficient mobilisation and allocation of resources.

Macroeconomic convergence issues

- Performance convergence
 - a ceiling on fiscal deficit, including grants of 3% of Gross Domestic Product;
 - a ceiling on gross public debt of 50% of Gross Domestic Product in Net Present Value terms;
 - a reserve cover of 4.5 months of imports
- Indicative performance
 - a ceiling on core inflation of 5%;
 - a ceiling on fiscal deficit, excluding grants, of 6% of Gross Domestic Product; and
 - a tax to Gross Domestic Product ratio of 25%.
- *Management of revenues of natural resource will impact on attainment and maintenance of macroeconomic convergence*

Progress made on fiscal harmonisation issues

- The region is taking steps towards attainment of the requirements under EAMU
- Through the Committee on Fiscal Affairs
- Management of revenues from oil and natural gas will impact on the fiscal policy and therefore the EAMU
- The EAC has identified fiscal areas to underpin the EAMU and is in the process of creating frameworks for coordinating and harmonising them
- The areas include:

Coordination of Budget Processes

- Identified areas for harmonisation and coordination
 - Budget calendar
 - Major national and regional priorities for financing
 - Reports on implementation of the regional priorities and financing
 - Legal framework to address fiscal responsibility, budget calendar, expenditure controls, public debt management, financial and accounting standards and coordination of national and local government fiscal operations.
 - Budget oversight function

Natural Resources Revenue Management

- In order to overcome likely adverse effects of natural resources revenue management, focus is on:
 - Development and coordination of a framework for fiscal regime;
 - Disclosure of the fiscal regime and revenue collections;
 - Coordination of measures to protect non-natural resource sectors;
 - Effective management of natural resource revenues;
 - Reporting natural resource revenues according to GFSM 2001; and
 - Capacity building to enable Partner States to effectively manage natural resources.

Attainment and maintenance of Macroeconomic convergence

- Attainment and maintenance of the macroeconomic convergence targets
- Development of medium term convergence program
- Development of framework for building resilience and managing economic shocks
- Establishment of a surveillance , compliance and enforcement mechanism
- Fiscal risk on bail-out of public entities
- EAC Stabilization Facility (EACSF)

Tax harmonisation

- Focus on income tax, Value Added tax, Excise Tax.
- Process of developing regional policies is in initial stages
- Undertaken through working groups
- Double taxation agreement in process of ratification
- **Code of Conduct Against Harmful Tax Competition and the Model EAC Tax Convention for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion**
- **Harmonisation of Tax Procedures including taxpayer registration, tax filing and payment, audit procedure, enforcement and recovery, and tax dispute resolution mechanisms.**

Public Procurement issues

- Efficiency in the public procurement has an impact on public financial management and service delivery.
- Partner States have agreed that for effective fiscal policies, there is need for harmonisation of Procurement Laws and Guidelines

Coordination of Public Debt Management

- Harmonisation of public debt framework
- Coordination of the Debt Sustainability Analysis
- Disclosure of Public debt and source of debt
- Harmonisation of public debt policies

Joint Financing of Projects

Partner States have identified the need for coordination of:

- The development of the legal and institutional framework
- Identification of financing options for regional projects

Non Banking Financial Sector

Need to develop a mechanism to address the following:

- Role of non bank financial institutions in financing regional projects
- Develop guidelines to facilitate non bank in financing regional and national projects
- Fiscal risk in operations of the non bank financial institutions

Public Wage Bill

Need to monitor the public wage bill to GDP ratio as one of the essential ingredients for monitoring fiscal sustainability.

- **Accounting and Oversight Practices in the EAC**

Need for development of a legal and regulatory framework for the harmonisation of financial management systems to enable a sound financial management framework at the regional level.

Institutional arrangements

- SCFEA with CFA
- Established Sub Committees under CFA:
 - ❖ Tax policy and Tax administration sub committee;
 - ❖ Economic subcommittee responsible for budget processes, public debt management, attainment of fiscal convergence, Public wage, non banking financial sector, joint financing, natural resource management and statistics; and
 - ❖ Public Private Partnership subcommittee responsible for PPP.
 - ❖ Accounting, procurement and Auditing subcommittee;

Challenges

- Establishment of a sound surveillance, compliance and enforcement framework
- Attainment and maintenance of macroeconomic convergence targets
- Management of revenue from natural resources-aware that they are finite;
- Creation of a mechanism of resilience against external shocks including a stabilisation facility
- Production of reliable statistics

Revenue from natural resources if well managed will support EAMU and lead to development of infrastructure and trade in the EAC



Thank You

Session 10: What Have We Learned and Where to Next?

High level summary

We have had a unique opportunity to discuss wide ranging issues related to fiscal management of petroleum, in a setting that has brought together senior government officials from ministries of finance, ministries of petroleum and energy, revenue authorities, and national oil companies.

- There is strong interest from policy makers to collaborate across EAC member states by sharing information, learning from each others' experiences, and where appropriate coordinate and harmonize policy.
- Fiscal management of oil and natural gas needs to be approached in an integrated fashion. This reflects the inter-linkages between the fiscal regime design, revenue administration, macro-fiscal policy frameworks, and PFM and budget systems.
- The preferred fiscal regime model in the region is a hybrid combining production sharing with tax/royalty. There is scope to simplify the fiscal regime, including by avoiding duplication of fiscal instruments, while making the overall government take more responsive to changes in project profitability. Developing capacity for using financial modeling tools will support fiscal regime analysis and revenue forecasting.
- A common challenge across all countries is to develop the capacity to effectively collect revenue from the petroleum sector, which could be facilitated by developing a specialized petroleum revenue unit in the revenue agencies. In some cases, there may also be scope to rationalize the institutional set-up by having one revenue agency collecting all fiscal charges and taxes on the sector.
- Macro-fiscal policy frameworks should guide the allocation of petroleum revenue between saving, investment and spending. As a rule of thumb, a high proportion of the revenue should be saved or invested domestically, while mechanisms need to be in place to insulate the budget from excessive revenue volatility. Choices related to borrowing need to be approached carefully.
- Public financial management reforms are needed to introduce a credible medium term orientation to the budget, provide full transparency of the receipt and use of revenue, underpin the macro-fiscal framework, integrate revenue into the budget framework, and provide rules for resource funds.
- Some thought needs to be given to the impact of petroleum revenue on the EAMU macroeconomic convergence criteria and the operations of the future monetary union.
- Finally, there is strong interest for cross-country collaboration among EAC members in preparing for more natural resource revenue. This process can continue to be supported by technical input from IMF and other experts.

Key issues discussed

Our discussions during the last three days have been unique in East Africa. This may be the first time that such a group -- including senior government officials from ministries of finance, ministries of energy, tax authorities, national oil companies, and central banks from across the five member states of the East African Community -- have had an opportunity to get together to discuss openly and frankly common issues and challenges related to the fiscal management of prospective petroleum resources. The uniqueness of this experience is evident from the high level of engagement and enthusiasm, indeed passion, displayed during our discussions.

We have clearly demonstrated the importance of having a forum where key government officials can get together and share experience and learning from each other, and also benefiting from interacting with experts.

1. The event has clearly brought out the importance of handling all facets of petroleum revenue management in an integrated fashion. This reflects the important inter-linkages between the fiscal regime design, revenue administration, macro-fiscal policy frameworks, and PFM and budget systems that make an integrated approach to reforms preferable. There is also the overriding issue of what will be the potential impact of future petroleum revenue on the anticipated monetary union and the associated macroeconomic convergence criteria and other issues.

2. Fiscal regime design

- a. Most countries in the region use a hybrid fiscal regime combining both production sharing with tax and royalty. The fiscal regimes in individual countries have evolved differently, but retain many commonalities albeit also country-specific features. There is significant scope for countries to learn from each other, not the least to be well-positioned to have in place sound fiscal regimes that provide a fair share of future project benefits to governments.
- b. While a hybrid approach is very appropriate, there is some scope to focus on simplifying the fiscal regime by avoiding overlapping fiscal instruments, having more responsive fiscal mechanisms, while improving transparency and disclosure.
- c. Each country has some measure of flexibility and responsiveness to changing circumstances in its regime. Room for improvement was acknowledged, as were the special challenges of gas development. Exchanges over the technical design issues could be valuable.
- d. The transparency of arrangements and disclosure of contracts are subject to different rules among countries. Acknowledging the sensitivity of the subject,

there is a need to promote transparency both for improving public financial management and for accountability to the peoples of the region. There is also a need to look at the total impact of all fiscal charges and understand how the different fiscal instruments interact. Strengthening the capacity for fiscal regime modeling, using a tool such as the FARI model, is an important step to build national capacity to undertake such an assessment, which is particularly important when considering changes to the fiscal regime or negotiating fiscal project terms.

- e. There is a clear interest in seeking opportunities between EAC member states for more information sharing and perhaps even identifying particular aspects of the fiscal regime that are suitable for coordination; during the discussions, this seemed to be particularly pertinent in relation to fiscal production sharing arrangements.

3. Revenue management

- a. There is a substantial challenge for all revenue authorities to build the requisite capacity to adequately manage collecting the due revenue from the petroleum sector. This is likely to be facilitated by the establishment of specialized units within the revenue agencies focusing on the petroleum (and in some cases minerals) sector.
- b. There were interesting discussions about the experience in other countries, most notably Ghana, that have tasked the revenue agency with collecting all revenues from the petroleum sector including royalty and production share. There may be a case also within the EAC member states for further rationalizing the institutional mechanisms for the collection of the various of revenue from the petroleum sector, which possibly would simplify the macro-fiscal and PFM management of resource revenue.

4. Macro-fiscal frameworks

- a. The rule of thumb that the macro-fiscal policy framework should provide for a relatively large part of the resource revenue to be saved or invested domestically found strong resonance; moreover, that the fiscal policy framework is a critical tool to manage the demand and volatility impact of revenue was widely acknowledged.
- b. It was widely recognized that the region faces large development needs (related to social and infrastructure spending). This would argue that some petroleum revenue should be used to scale up growth enhancing spending or investment. However, the pace and scale of scaling-up needs to reflect both

the exhaustibility of the potential resource revenue, the uncertainty and volatility, and the absorption and political economy constraints.

- c. While the potential future petroleum revenue may improve the debt outlook, the responsibility remains to manage this carefully. Particular care is needed in terms of any borrowing (explicitly collateralized or not) against future revenue as this will impose significant fiscal risks and reduce future fiscal flexibility. Any borrowing needs to be assessed within a comprehensive framework for asset and liability management. For emerging producers, the potential revenue from petroleum should only be integrated into the base case debt sustainability assessment when it is known with sufficient certainty that a project will go ahead.
- d. Key elements of a credible macro-fiscal policy framework are (i) a long term sustainability indicator; (ii) a measure of the fiscal policy stance (non-resource current balance); (iii) an anchor or rule for the short to medium term fiscal policy; and (iv) supportive fiscal institutions. However, the detailed design of the macro-fiscal policy framework should be country-specific reflecting initial conditions and specific country circumstances.
- e. The technical challenge is to translate these general principles into practical policy frameworks underpinned by credible, flexible and transparent policy anchors or rules. There is some merit in exploring ways to give more credibility to fiscal rules by putting these in legislation. The impact of petroleum revenue on the future monetary union also needs to be considered further.
- f. The perhaps more difficult challenge is to find an effective way to build up political and popular support and buy-in for a fiscal policy framework that may entail a more gradual and cautious scaling up of spending than expected.

5. Public financial management and budget systems

- a. The fiscal framework needs to be underpinned by the appropriate fiscal institutions, notably the development of a credible medium-term budget framework. This will require, inter alia, the development of skills to make medium to long-term forecasts of resource revenues, in which tool such as the FARI model can play an important role. Addressing credibility issues in annual budgets will also be essential pre-requisites for the medium-term budget framework.
- b. There is also a need to have maximum transparency and public accountability both in terms of reporting on the receipt and the usage of the resource revenue. This has implications for the content of budget documentation

submitted to parliament, for in-year fiscal reporting, and for the compilation of financial statements which will now need to reflect financial assets and liabilities. Accountability will need to be underpinned by enhanced audit and oversight arrangements. Public availability of these documents was also stressed, along with the need for an enhanced communication effort to guide public expectations from resource revenues.

- c. As the experience in Uganda shows, integrating petroleum revenue into the fiscal framework is also an opportunity to modernize the PFM framework and processes. This is an area where there is much potential for enhanced collaboration between EAC members, notably in the context of the on-going work on aligning budgetary and reporting frameworks to support fiscal policy harmonization in of the run up to monetary union.
- d. There was strong support among participants on the need for dedicated resource funds and unanimous agreement on the importance of ensuring that resource funds fully support and underpin the fiscal policy framework and do not substitute for policy. There may be transparency and credibility advantages from having a resource fund to regulate the use of resource revenues and manage the investment of any savings. However, there was a strong consensus that such funds should have no separate spending authority and should function as a financing fund for the budget as determined by the fiscal policy framework.
- e. For countries that seek to scale up public investment, it is imperative that the capacity for managing the public investment program be strengthened (from project selection, design, procurement and implementation).
- f. Key PFM reforms related to resource revenues would include:
 - i. Developing the appropriate PFM legal framework, preferably integrated within the broader PFM law
 - ii. Establishing appropriate institutional arrangements for resource revenue funds, including those for investment of surplus funds, and developing a comprehensive reporting framework for the operations of the fund
 - iii. Enhancing the credibility of the medium-term budget framework, including the adoption of clear rules related to resource revenue use
 - iv. Strengthening public investment management

- v. Including resource revenue related information in budget documentation
 - vi. Ensuring that annual budgets are realistically costed and executed as planned, and establishing mechanisms that contain in-year supplementary spending pressures, particularly in the case of windfall resource revenues
 - vii. Developing the treasury, accounting, and audit procedures and associated capacities that will ensure transparent and accountable management of resource revenues
6. Fiscal issues related to pipeline and cross-border infrastructure
- a. As progress is made toward developing regional infrastructure projects, including pipelines or common infrastructure facilities, there will be particular issues related to the fiscal treatment that necessitate close collaboration between countries.
 - b. Key fiscal issues relate to the taxation of the infrastructure, imposition of transit fees, and potential government participation. Important non-fiscal issues relate to the arrangements for third party access to the infrastructure
7. Implications of petroleum on the East African Monetary Union (EAMU)
- a. The workshop spent some time discussing the potential impact of petroleum revenue on the macroeconomic convergence criteria underpinning the EAMU. Focus centered on how to preserve the relevance of the convergence criteria if countries develop large-scale petroleum projects. This relates particularly to the fiscal deficit target (where petroleum-exporting countries may run large fiscal surpluses during peak production but large deficits during the project development phase if the government retains fully-paid equity in a project) or the gross debt target (which ignores changes in financial assets, so could be supplemented by a focus on net debt or net financial assets).
 - b. There are also likely to be other issues impacting the functioning of a future monetary union, for example related to foreign reserve management. In particular, if some countries establish a resource fund, how the associated financial assets should be treated in terms of reserve management.

Other challenging fiscal issues discussed related to the impact of decentralization and earmarking of revenue in the petroleum sector. While this may be necessary for political and social reasons, the experience from other countries points to the importance of paying close

attention to the institutional and policy design to ensure that any negative repercussions on fiscal policy capacity remain manageable.

A critical issue that emerged again and again is the importance of managing expectations arising from politicians and in the population more generally. Meeting this challenge requires an effective communication strategy implemented at several fronts. This should lead to the development of a national consensus on the key principles for the management and use of natural resources.

The credibility of the framework for the fiscal management of petroleum resources will also require governments to deliver results and fully account for the receipt and usage of petroleum resources.

Finally, there is clearly strong interest in pursuing further scope for EAC fiscal authorities to continue to deepen the collaboration in preparing for more natural resource revenue. This can be supported by more sharing of information and experiences – in particular as the problems faced are common across the region. In some areas, there may also be scope to coordinate and even harmonize more closely on some aspects of the fiscal management.

The existing Fiscal Affairs Committee within the EAC provides a venue and institutional setting for this. This is clearly also an area where there is room for continued close collaboration with experts from the IMF and elsewhere to seek to learn from the experience elsewhere.

Closing Remarks at the EAC-IMF Workshop on Fiscal Management of Oil and Natural Gas in East Africa (January 17, 2014)

**Acting Minister of Finance Hon. Saada Mkuya Salum (MP)
United Republic of Tanzania**

I am honored to be with you today here in Arusha to officially close the three-day high level workshop conducted by the East African Community Secretariat and the International Monetary Fund. This is the first Workshop of its kind and of much relevance to the EAC region.

The East African region is facing a unique opportunity. Several countries in the region have made exciting discoveries of oil and natural gas during the last couple of years. This has triggered new interest from a range of global, regional and domestic companies that are in total spending billions of dollars on further exploration, and in some cases already developing new petroleum prospects in East Africa.

This provides both a great opportunity but also challenges for governments across the region. There is a once in a lifetime opportunity to use the newly found natural discoveries to transform and develop the economies of East Africa. This has the potential to lift millions of our citizens out of poverty and help achieve the national goals that our political leaders have set of reaching middle income status. For Tanzania this is expected to happen in the year 2025 as per our Development Vision 2025.

At the same time, the experience from many countries provides a clear lesson for us that the presence of natural resources is not in itself a guarantee that these will translate into lasting benefits for the current and future generations. The responsibility is ours to ensure that we manage our newly discovered natural resources responsibly in a manner that truly benefits both current and future generations. This requires us to invest in institutions and ensure we have in place the necessary frameworks for effective management of the resources and revenues derived from them.

The reason why we need to think also about our future generations is because of one particular feature faced by all countries in the region; that is even though the newly found oil and gas resources are likely to be substantial in size, they will only provide temporary benefits to our economies and the revenue from oil and gas will eventually be exhausted. This raises particular challenges in terms of their fiscal management.

It is also important to remember that there is still much uncertainty about the oil and gas discoveries. Developing these will require multi-billion dollar investments by the petroleum companies. For investments of such scale to materialize will require that there is certainty and predictability about the policy and regulatory framework. Managing public expectations about the impact of the sector will also remain a challenge to be tackled.

It is evident that there are many important non-fiscal benefits that require close attention including how best to support the creation of jobs and maximize opportunities for domestic companies to develop linkages with the oil and gas sector. Nonetheless, the most significant benefits from a large scale petroleum development are likely to be of a fiscal nature. The key challenge for all of us in this room in carrying out our respective fiscal policy roles and responsibilities is therefore to ensure that the government will be able to collect the due revenue and to manage the revenue to the benefit of the development of the economy.

An important insight coming from the workshop is that the policy challenge needs to be tackled holistically and comprehensively. This requires several key components, and I will cite a few:

- designing and implementing a sound fiscal regime with tax and other fiscal instruments that will ensure that the government gets a fair share of project benefits, but also that the tax burden is not so excessive as to discourage the investment in the first instance;
- building institutional and human capacity in our revenue agencies to be able to effectively and efficiently collect revenue from the petroleum sector;
- introducing a macro-economic framework that will guide the revenue management -- how much to spend and how much to save, and not the least on how to spend the revenue; and

- reforming the budget and public financial management systems to integrate petroleum revenue, ensuring that all government revenue and spending is subject to the same public and parliamentary oversight and scrutiny, and that the capacity is developed to introduce a real medium-term orientation to the budget process.

On top of this, there is clear evidence of the importance of transparency and full accountability to the public about the receipt and use of fiscal benefits from natural resources. The experience of Tanzania participating in the Extractive Industries Transparency initiative should provide insights and experiences that may be of interest to other countries in the region.

The government needs to take the lead in framing the policy response in these areas. At the same time, given the need to have policy consistency and stability, it is imperative that the policy will be underpinned by a popular consensus and buy-in. The experience from Chile and Norway shows the importance of elevating questions about fiscal policy for the petroleum sector above parochial political party interests to develop a popular national consensus on how natural resources should be managed to the benefit of all citizens.

Moreover, given the multi-sectoral nature of the policy issues facing us, the burden is on us all to work closely together in implementing a comprehensive and well-coordinated policy response. We all have key roles to play whether we are from finance ministries, energy and petroleum ministries, tax authorities, national oil companies, or central banks. To ensure policy clarity and consistency, focused and strategic leadership is called for. While each country will respond to this challenge differently, in Tanzania we have taken a multisectoral approach and we are envisaging that the Chief Secretary in the President's Office will have a key role to play in providing leadership and guidance. We have realized that this is an issue that requires the attention beyond sectoral confines and dictates of the Ministry of Energy and Minerals.

I would like to end my closing remarks by thanking the East African Community Secretariat and the International Monetary Fund for organizing this event. I would also like to extend my appreciation to the development partners who have made this event possible due to their

financial contributions to the IMF Topical Trust Fund for Managing Natural Resource Wealth. I think I speak on behalf of all participants in recognizing the benefits that we have derived from the high-level workshop. I will in particular note the importance for us as government officials of having had the opportunity to engage in formal and informal discussions during the last three days to share our experiences on how we are handling issues and challenges that are often quite common across our countries. It has also been an opportunity for us to interact with experts from the IMF as well as other organizations in the region as well as internationally.

Finally I will implore each of you as you travel back home to think of ways in which you can put into practice the new knowledge, thoughts and experiences that you have acquired over the last days to do your part in helping your country rise to the challenge of ensuring lasting benefits from the sub-soil riches that we have been blessed with.

Many thanks. I thank you for your kind attention and wish you safe travel back to your countries and work places.

**FISCAL MANAGEMENT OF OIL AND
NATURAL GAS IN EAST AFRICA**

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Fiscal Analysis of Resource Industries (FARI)
- a framework for fiscal regime analysis and design

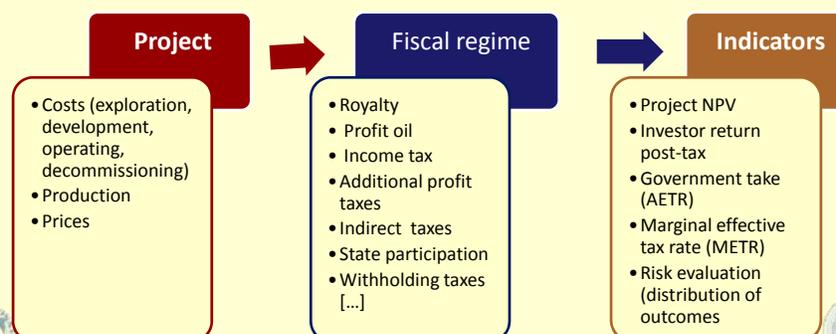
Oana E. Luca (IMF FAD)

Managing Natural Resource Wealth Topical Trust Fund



An approach to fiscal regimes evaluation

- In practice, the interaction between the different elements of a fiscal package is complex and produces effects that vary by project.
- Headline parameters usually offer only limited insight. Appropriate treatment of depreciation, loss carry forward, thin capitalization rules, and ring-fencing is important.
- Project-specific modeling is necessary.



Fiscal Regime Evaluation Criteria

Criterion	Key Indicators
Neutrality (avoid distortion of investment and operating decisions)	Marginal Effective Tax Rate (METR) Breakeven commodity price Probability of negative NPV under price uncertainty Gold plating analysis
Revenue raising capacity (maximize government revenue)	Average Effective Tax Rate (AETR) Expected government revenue under price uncertainty
Progressivity with price and costs	Government Share of Total Benefits
Manage government risks	Time profile of revenue Coefficient of variation of NPV of government revenues Proportion of revenues received in first n years of production
Adequate incentive to invest	Post-tax internal rate of return to investor (IRR) Years until discounted payback achieved Coefficient of variation of investor IRR and NPV Probability of negative NPV with price uncertainty Expected Monetary Value (EMV) (NPV weighted by exploration risk)
Minimize administrative burden and risks	Complexity; vulnerability to manipulation.



3



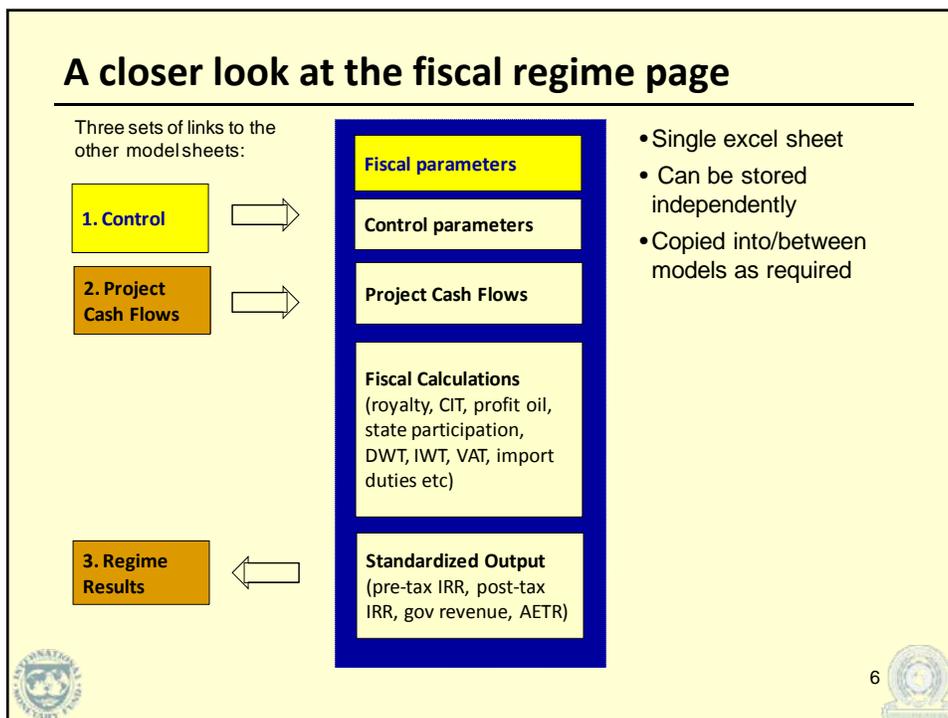
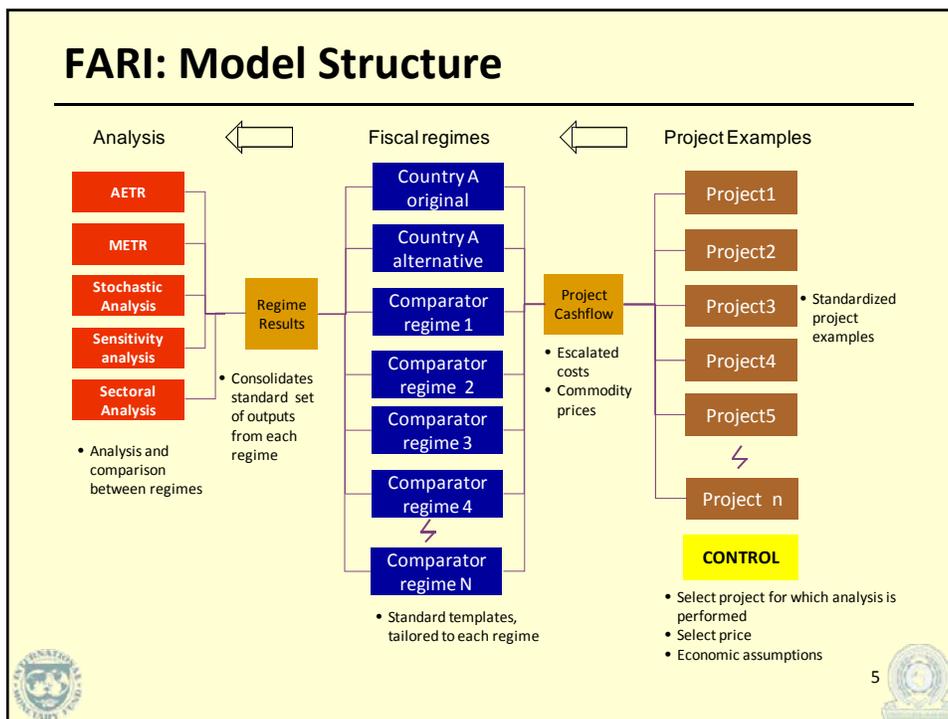
FARI: design principles

- Excel-based, discounted cash flow model structure
- Standard suite of analytical routines and outputs, with flexibility to handle diversity in fiscal regimes
- Documented modeling standards and conventions
- Logical flow (inputs -> workings -> outputs)
- Main calculations on single sheet
- Project-based



4





FARI: Inputs

- Fiscal terms applicable to the project
 - Rates and specific mechanisms
- Project-level information
 - Production profile
 - Costs with exploration, development, production and decommissioning
- Price assumptions
 - WEO forecast
 - Constant real prices
 - Stochastic simulations
- Other economic assumptions
 - Inflation and interest rates



7



FARI: Model Calculations

- Project NCF before tax

Pre-tax project NCF = gross revenue less transportation less all exploration, capital, and operating, and decommissioning costs
- Fiscal payments
 - Royalty – e.g percent gross sales value
 - CIT – if applicable (or calculated notionally)
 - Cost oil – limit on costs deduction from gross revenue
 - Profit oil – mechanisms splitting revenue/oil between investor and government after cost oil is deducted
 - DWT – tax on dividend payments abroad
 - Additional profits tax
- Cash flows reconciliation

Pre-tax project NCF = government revenue + lender NCF + equity investor NCF



8



FARI: Output

- Time profile of government revenue from the project
 - with breakdown by tax instrument

- Key Indicators
 - AETR
 - METR
 - Progressivity
 - Profit to investment ratio
 - Investor payback
 - Investor post-tax return



9

Average Effective Tax Rate (AETR)

- The “government take” in a profitable case

$$\frac{\text{Government revenue}}{\text{Pre-tax project NCF}}$$
- Calculated over the full project life and at various discount rates.
- At investor discount rate, if AETR >100% then project is unviable.
- The AETR usually increases with the discount rate.

Total	YEAR	1	2	3	4	5	6	7	8	9	10
-100	Spend	-100									
225	Receive		25	25	25	25	25	25	25	25	25
125	Net Cash Flow	-100	25	25	25	25	25	25	25	25	25
11	Royalty (5%)	0	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	AETR undiscounted										
	AETR discounted at 10%										
11	Government revenue				7						
125	Pre-tax Project NCF				40						
9%	AETR (NPV0)				16%						



10

Marginal Effective Tax Rate (METR)

- Government proportion of pre-tax return for a project which is just viable post-tax for investor

$$\frac{\text{Pre-tax return} - \text{Post-tax return}}{\text{Pre-tax return}}$$

where post-tax return = investor's hurdle rate

- Calculated over the full project life
- Expressed as % or as breakeven commodity price (price required to reach hurdle return)



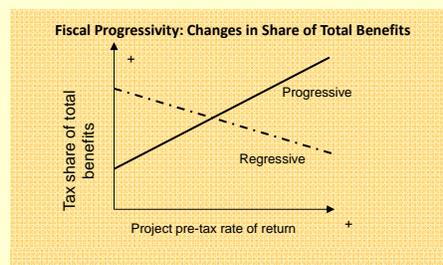
11



Progressivity

- Different indicators to illustrate progressivity.
- Most commonly used is the **government share in total project benefits**:

$$\frac{\text{Government revenues}}{(\text{revenues} - \text{operating costs})}$$



- Calculated over the full life of the project and at different discount rates.

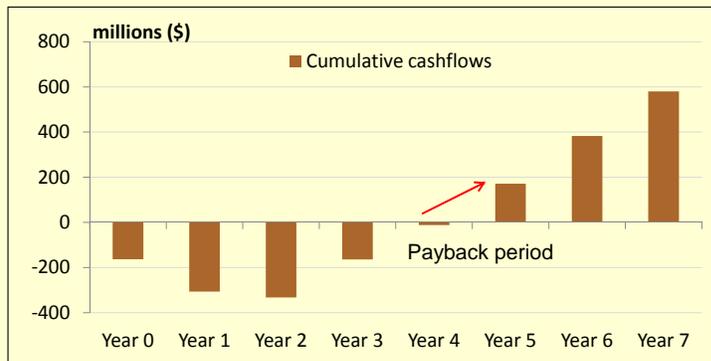


12



Payback Period

- In a petroleum project, the payback period occurs when the cumulative cash inflows from production are sufficient to recover the cumulative exploration, development and operating costs.
- The payback period can be calculated on undiscounted or discounted cash flows.
- Other things equal, an investor prefers a short payback period.



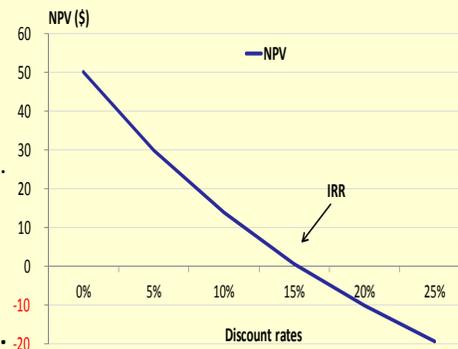
13

Net Present Value and Internal Rate of Return

- NPV is the sum of the discounted present values (at a specific date) of a stream of future cash flows.
- The discount rate accounts for the time value of money (i.e., a dollar today is worth more than a dollar tomorrow), and can be thought of as the opportunity cost of capital (i.e., the cost of borrowing or investing in an alternative project).
- Other things equal, an investor would prefer projects with higher positive NPVs.
- **The IRR is the discount rate at which the NPV of a project is zero.**

Illustrative stream of cash flows:

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
(100)	30	30	30	30	30



14

Production, Project Cash Flow, and Government Revenue Profile

AN ILLUSTRATION

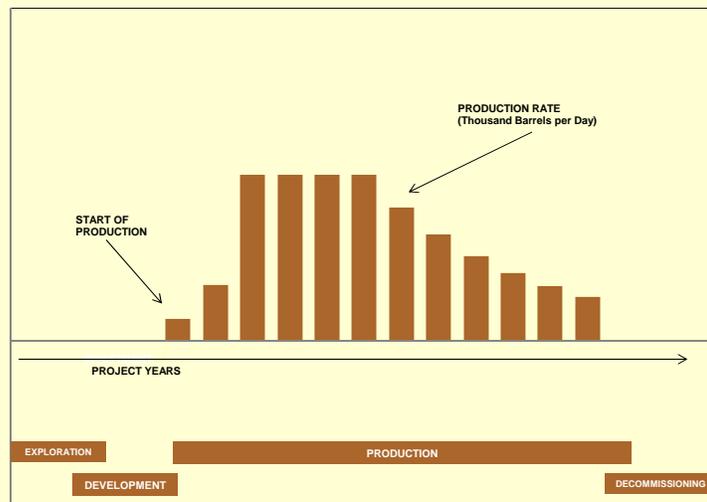


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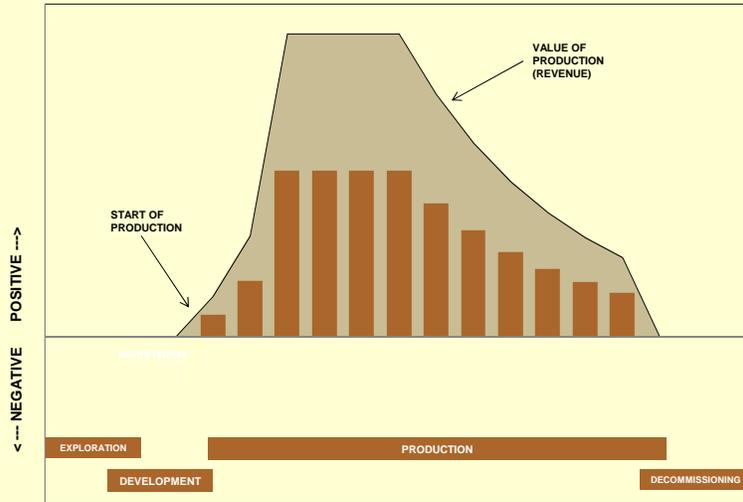
Hypothetical Oil Field

STYLIZED ILLUSTRATION



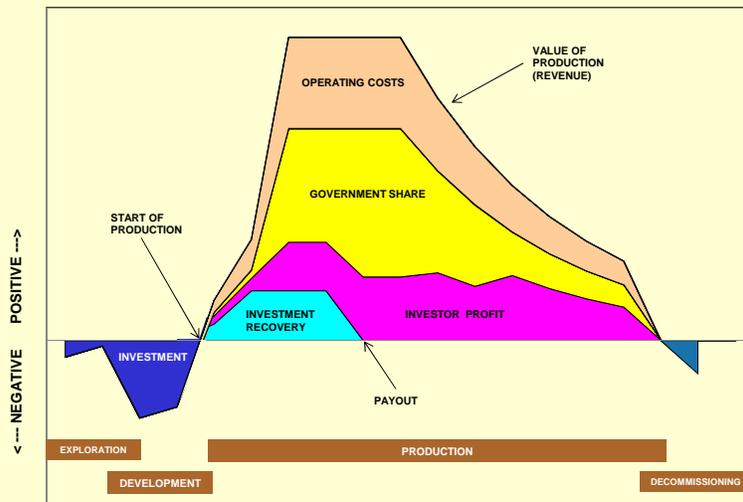
Project Revenue Profile

STYLIZED ILLUSTRATION

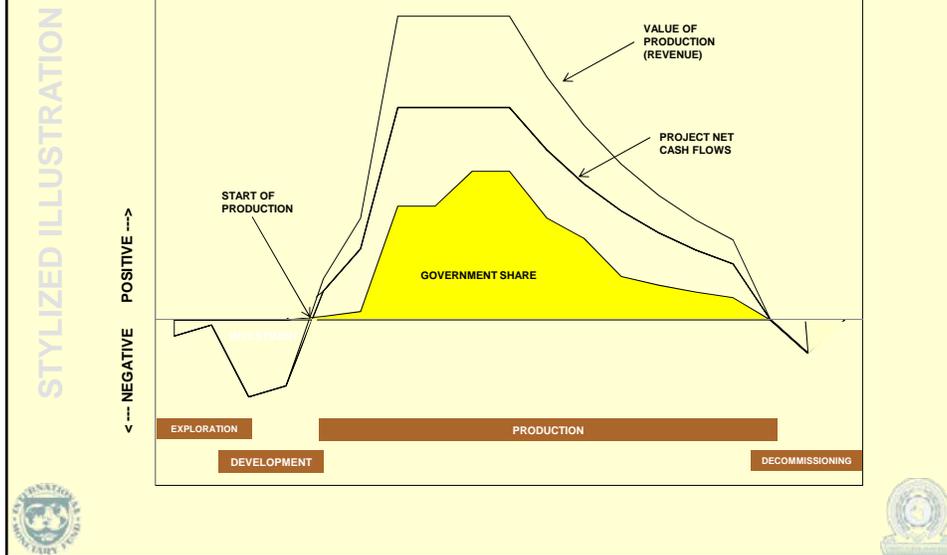


Project Revenue and Costs

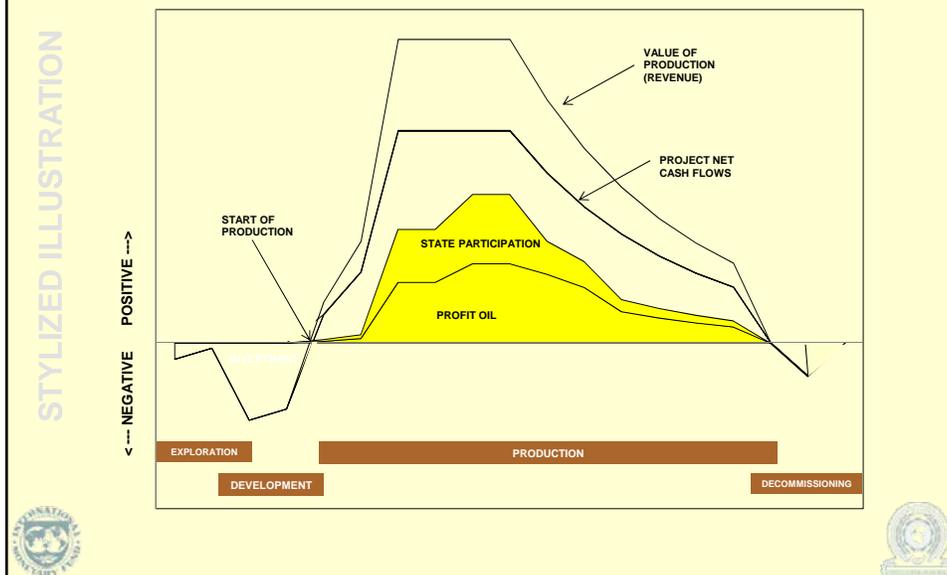
STYLIZED ILLUSTRATION



Government Revenue vs. Project NCF



Composition of Government Revenue



EVALUATION OF PETROLEUM FISCAL MECHANISMS WITH FARI



21



Modeled scenarios

- Income tax + (very high) royalty
- Income tax + royalty + additional profits tax
- PSC with DROPP sharing + additional profits tax
- PSC with DROP sharing + additional profits tax
- PSC with R-factor sharing
- PSC with ROR sharing

These scenarios are stylized representations of key structural features of schemes in the region, calibrated to yield same revenue in benchmark.



22



Profit oil sharing mechanisms

- **Daily Rate of Production (DROP) or Cumulative production**

State share increases with daily/cumulative rate of production. Field size is a poor proxy for profitability.

- **Daily Rate of Profit Petroleum (DROPP)**

State share increases with daily rate of profit petroleum.

- **R-factor**

State share increases relative to the ratio of contractor's cumulative revenues to costs ("R-factor")

- **Rate of Return (ROR)**

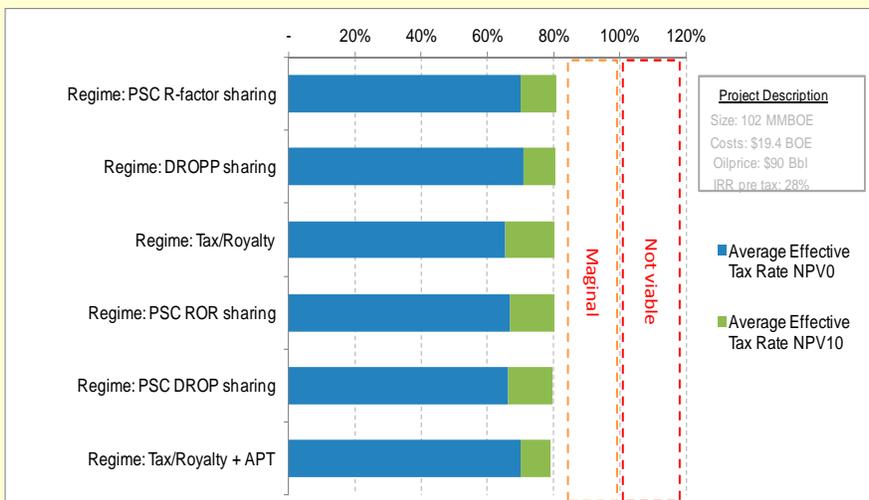
State share is set relative to the cumulative actual rate of return earned by the contractor at the date of sharing.



23



All regimes are calibrated to have the same AETR for the base project, at the base case oil price of \$90 per barrel.



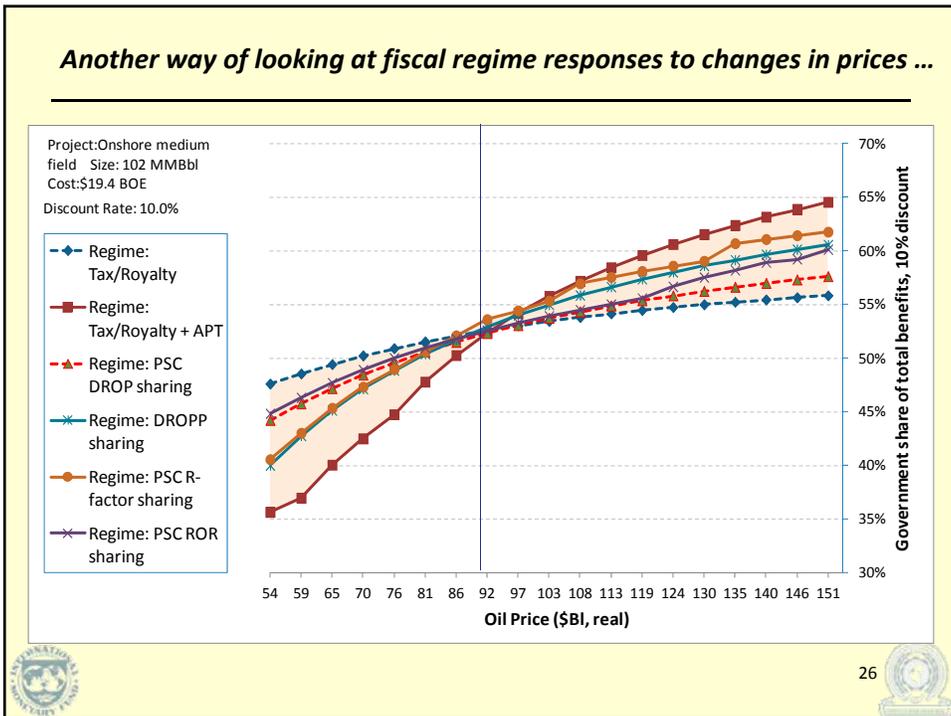
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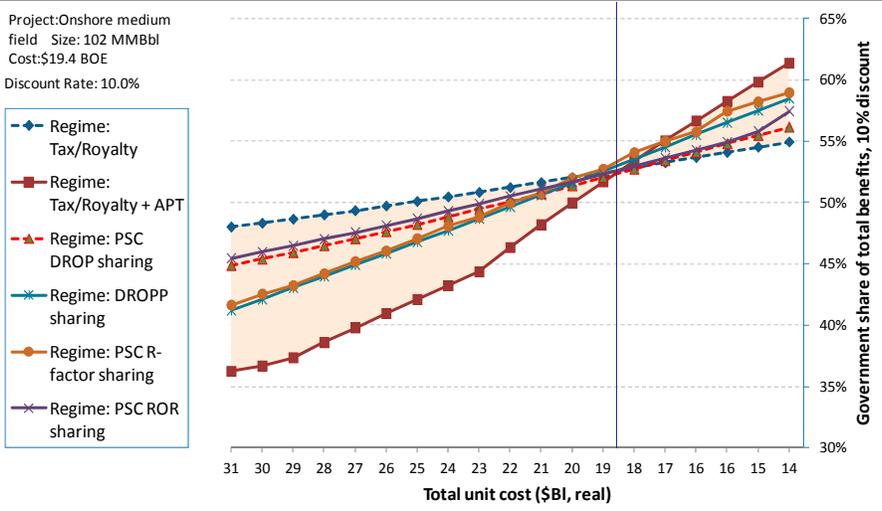
But they respond very differently to changes in prices ...



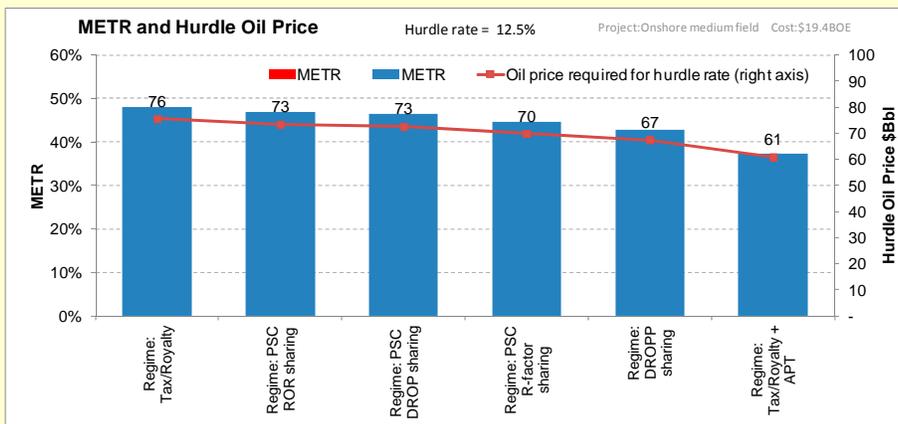
Another way of looking at fiscal regime responses to changes in prices ...



.. And costs—with royalty regimes hardly responding at all.



And royalty regimes do more to distort decisions and limit the feasible range of projects.



THANK YOU!



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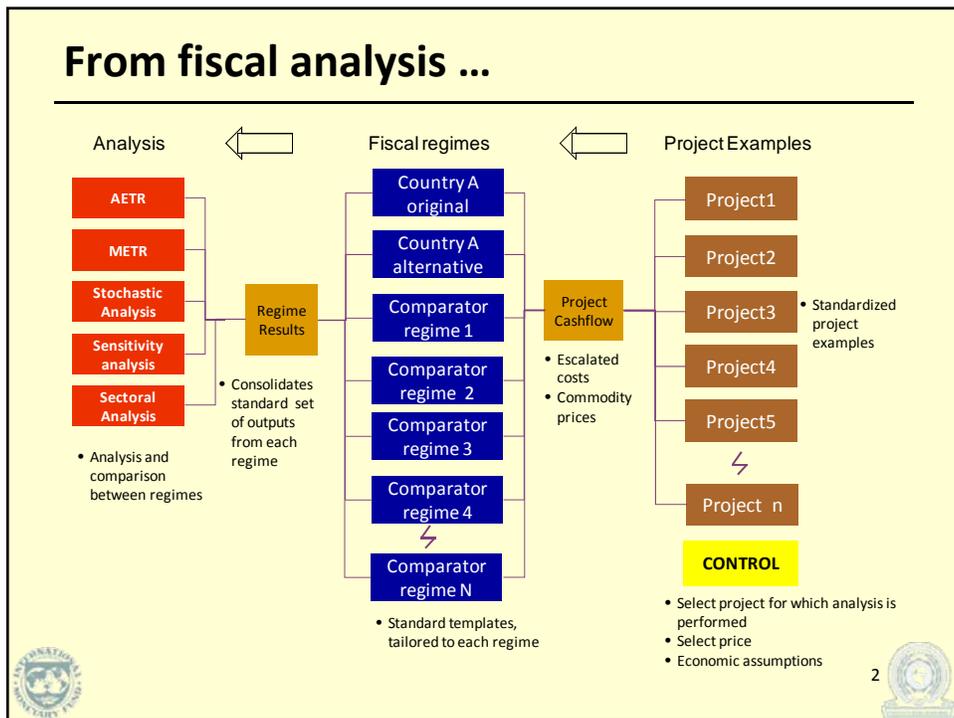
Fiscal Analysis of Resource Industries (FARI)

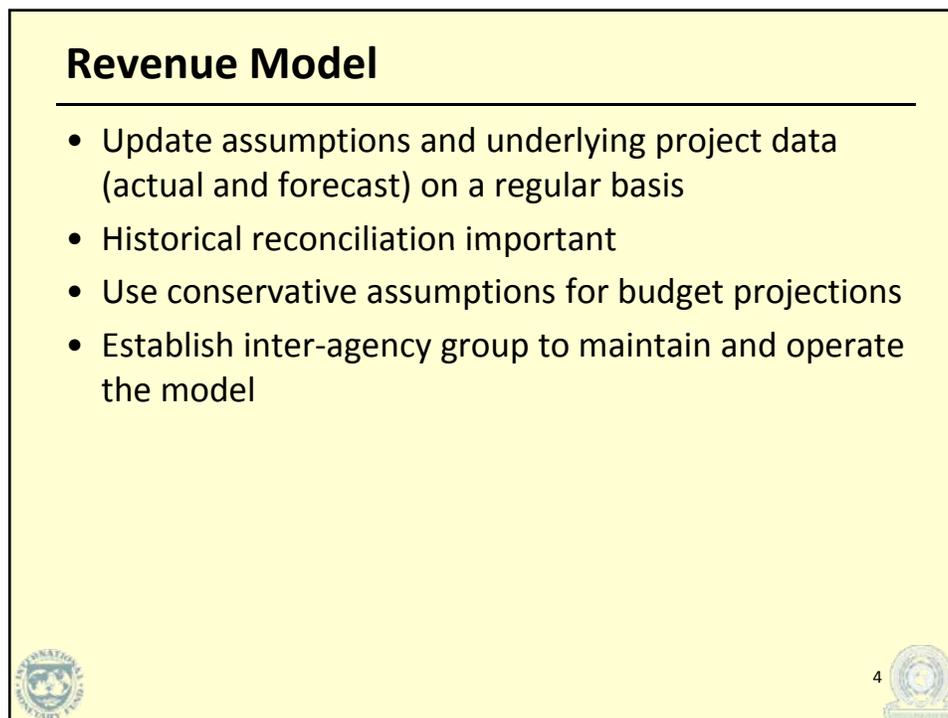
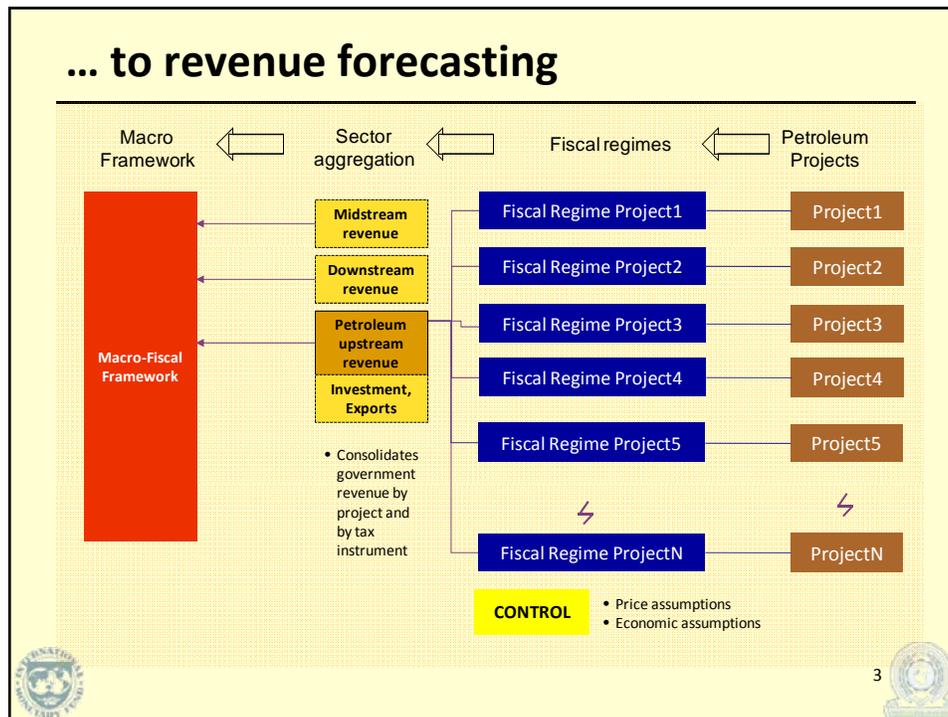
- a framework for revenue forecasting

Oana E. Luca (IMF FAD)




Managing Natural Resource Wealth Topical Trust Fund





Project Data

- Production profile by year

OnshoreGas Project		year	2000	2001	2002	2003	2004	2005	2006	
Hypothetical	13.8	Production oil	Mbpd	-	-	-	-	1.4	2.1	2.0
	2,617.2	Production gas	MWscf/day	-	-	-	-	164	238	252
	-	Transport and processing after fiscal point	\$mm 2008	-	-	-	-	-	-	-
	108	Exploration costs	\$mm 2008	108	-	-	-	-	-	-
	797	Development costs, excl. development drilling	\$mm 2008	-	24	152	205	68	13	52
	110	Development drilling	\$mm 2008	-	4	3	23	9	1	13
	-	Replacement capital	\$mm 2008	-	-	-	-	-	-	-
	329	Operating costs	\$mm 2008	-	-	-	2	14	14	14
	91	Decommissioning costs	\$mm 2008	-	-	-	-	-	-	-
	2008	Base year for costs	year	-	-	-	-	-	-	-

- Cost profile by year, broken down into cost categories relevant for fiscal calculations

- Exploration
- Capital by same categories as depreciation
- Operating costs
- Closure and rehabilitation costs

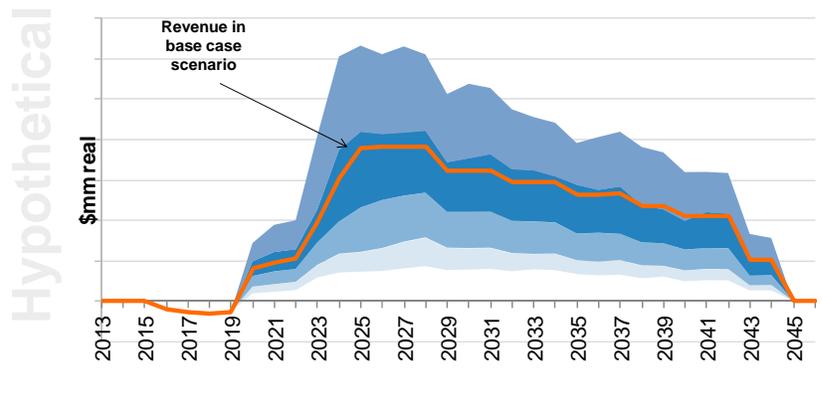
- Sources

- Company development plans, feasibility studies, annual reports, websites, media
- **Government must insist on companies providing data**



Stochastic simulations

Government revenue, confidence intervals





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Tanzania Case Study: Using the FARI Framework for Macro-fiscal Framework Analysis

Thomas Baunsgaard
IMF Resident Representative in Tanzania
(tbaunsgaard@imf.org)



Managing Natural Resource Wealth Topical Trust Fund

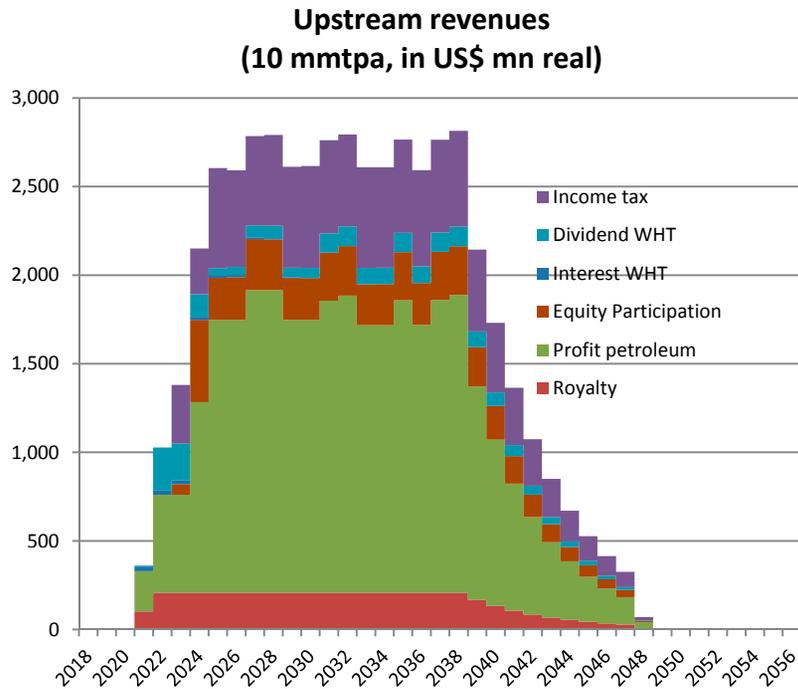
Natural gas in Tanzania

- Significant off-shore natural gas discoveries in recent years
- Two different groups of companies have announced estimates of recoverable gas reserves of about 24-26 trillion cubic feet (tcf)...potentially sufficient for a four-train LNG plant
- None of the deep offshore discoveries has yet been declared commercially viable nor has any firm made a final investment decision yet
- So too much uncertainty to make firm revenue projections, but we can use FARI to simulate the fiscal impact under illustrative project assumptions

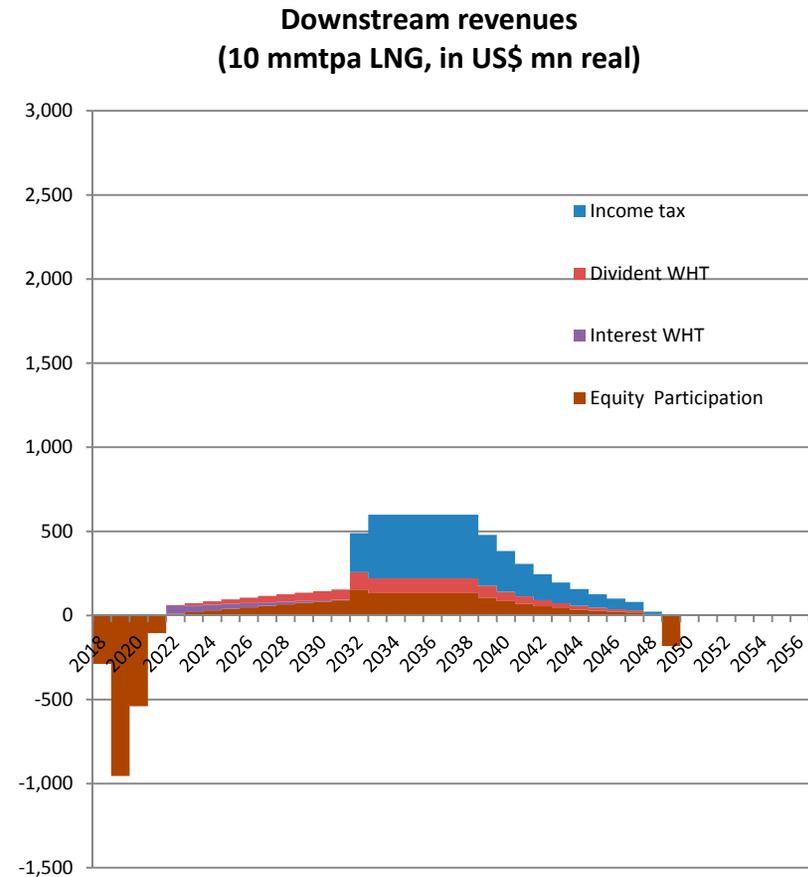
Potential Revenue Impact of a Two-Train LNG Plant

(10 mmtpa, 12 tcf total LNG)

(i) Upstream



(ii) Downstream



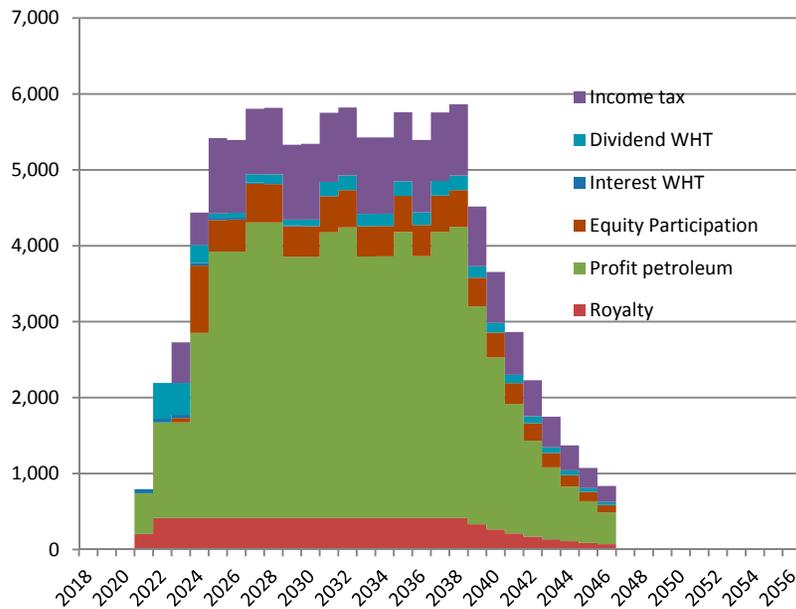
Note: Substantial revenue contribution from “profit petroleum” (treat as any other govt. revenue); and the fiscal implications of equity participation in downstream (public finance choice)

Potential Revenue Impact of a Four-Train LNG Plant

(20 mmtpa, 24 tcf total LNG)

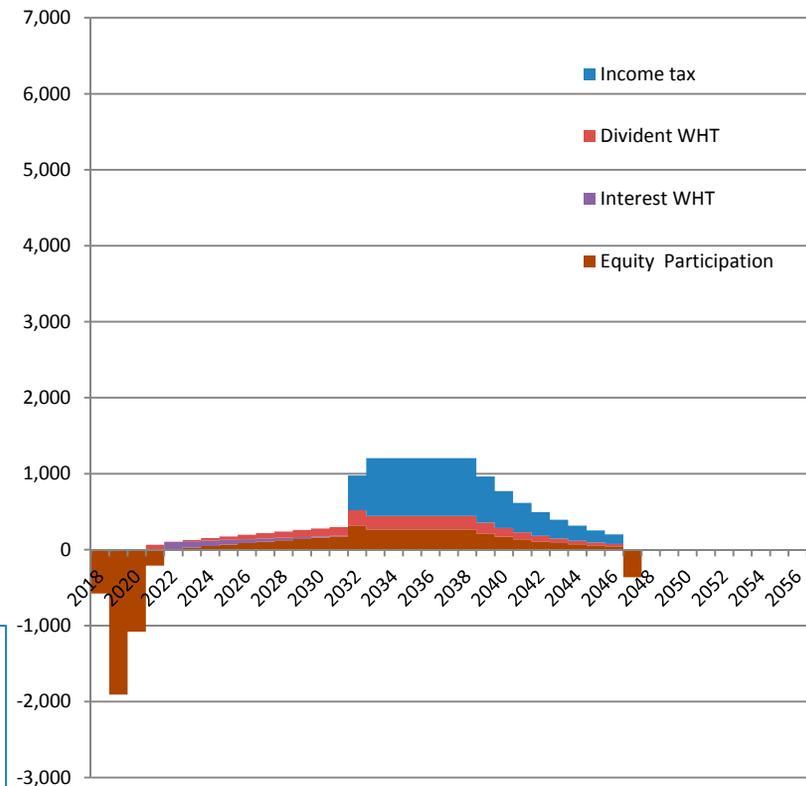
(i) Upstream

Upstream revenues
(20 mmtpa LNG, in US\$ mn real)



(ii) Downstream

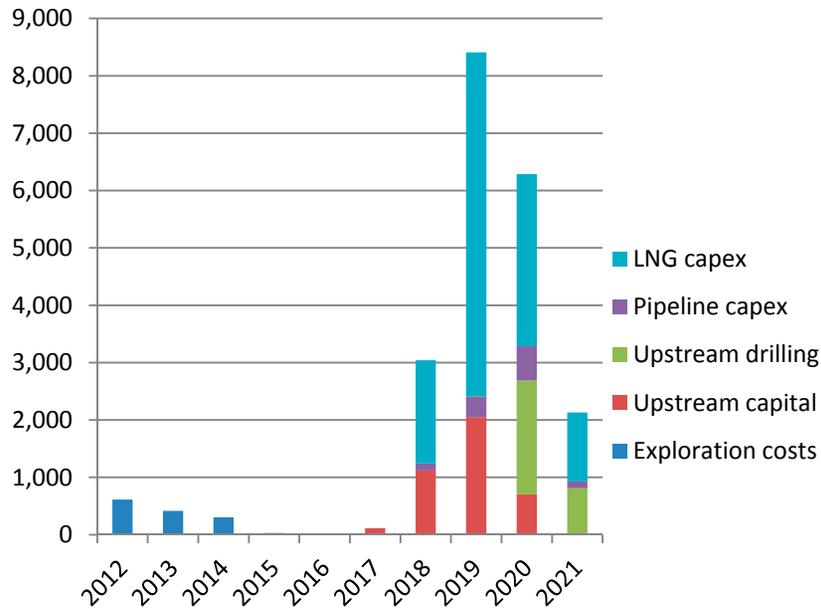
Downstream revenues
(20 mmtpa LNG, in US\$ mn real)



Note: Substantial revenue contribution from “profit petroleum” (treat as any other govt. revenue); and the fiscal implications of equity participation in downstream (public finance choice)

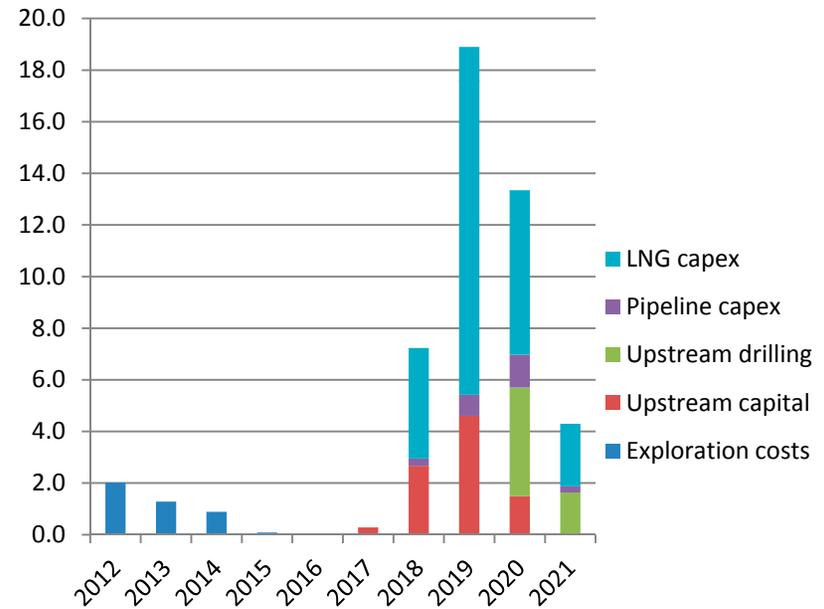
Potential Investment Impact of Two-Train LNG Project

**LNG Gas : Exploration and Development
Cost 1/
(In millions of US\$ real)**



1/ Illustrative project assuming gas reserves of 12 tcf and LNG capacity of 10 mmtpa.

**LNG Gas : Exploration and Development
Cost 1/
(In percent of GDP)**

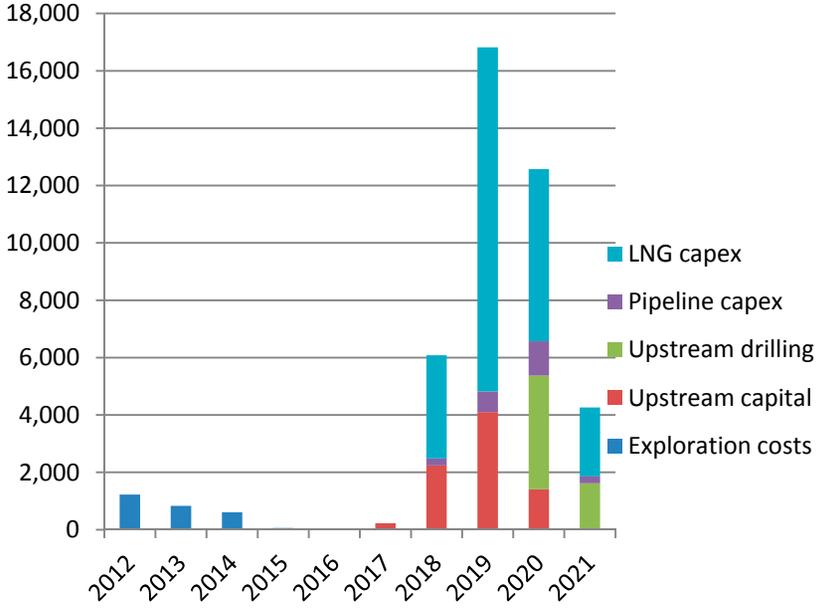


1/ Illustrative project assuming gas reserves of 12 tcf and LNG capacity of 10 mmtpa.

Policy question: Given the significant development cost, consideration of costs and benefits of holding government equity is essential, and whether to participate in all segments

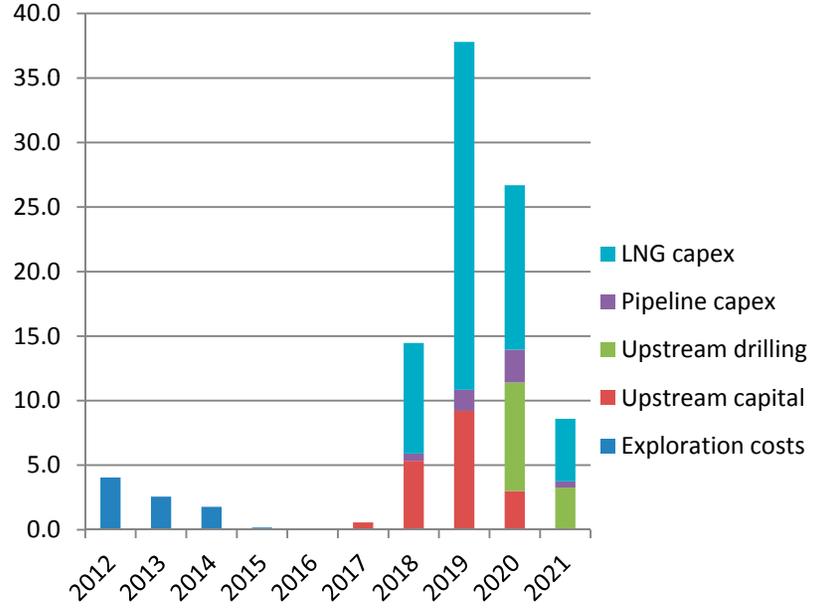
Potential Investment Impact of Four-Train LNG Project

**LNG Gas : Exploration and Development
Cost 1/
(In millions of US\$ real)**



1/ Illustrative project assuming gas reserves of 24 tcf and LNG capacity of 20 mmtpa.

**LNG Gas : Exploration and Development
Cost 1/
(In percent of GDP)**

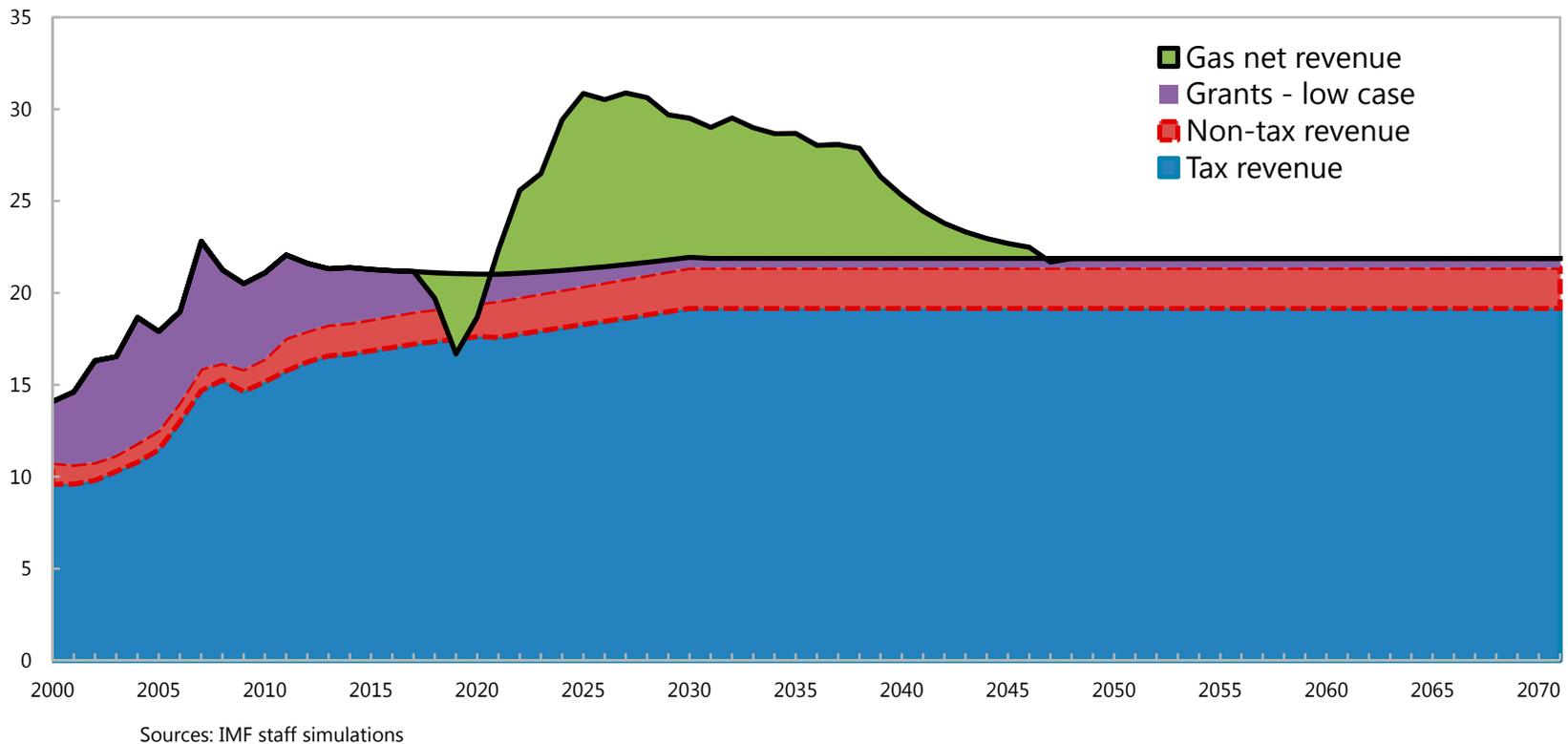


1/ Illustrative project assuming gas reserves of 12 tcf and LNG capacity of 10 mmtpa.

Caveat: This simulation assumes the development of four trains, while an alternative may be to phase the development over a longer period.

Still much uncertainty, but simulations indicate significant but temporary revenue uplift

Tanzania: Potential Revenue Impact of an LNG Project (In percent of non-petroleum GDP)



Note: Revenue simulations for a four-train LNG plant (20 mmtpa and 24 tcf gas reserves)

Fiscal policy framework objectives

- Should provide **macro-fiscal stability** and **sustainability**
- Should provide adequate accumulation of **precautionary and future generations savings**
- Should finance **scaling-up** of growth enhancing expenditure...**but gradual** if large absorption or institutional capacity constraints

These **objectives can be conflicting**

Use output from FARI fiscal simulations to explore fiscal policy framework options

Illustration: An operational fiscal rule

Fiscal rules can be PIH-based, price-based, set fixed proportions of revenue to be spent, or current balance rules.

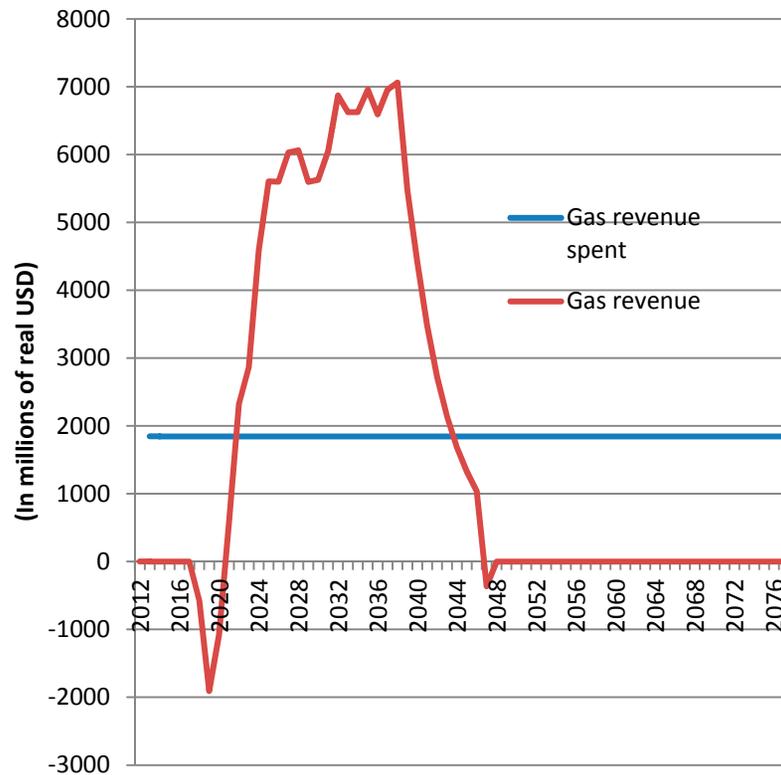
An example of **Flexible PIH-type rule**:

1. Annually calculate the total gov wealth derived from natural gas (= net financial assets + discounted future gas revenue)
2. Calculate the “notional return” on wealth (e.g., 3% of total wealth), which is the PIH benchmark for sustainable spending of natural gas revenue
3. If spending financed by gas revenue is front-loaded, the wealth in the following year is correspondingly lower (i.e., financial assets accumulation less)
4. Cap the annual non-gas primary deficit to the level of PIH benchmark + front-loading (so gas revenue spent finances the non-gas primary deficit)
5. If front-loading spending, do so gradually

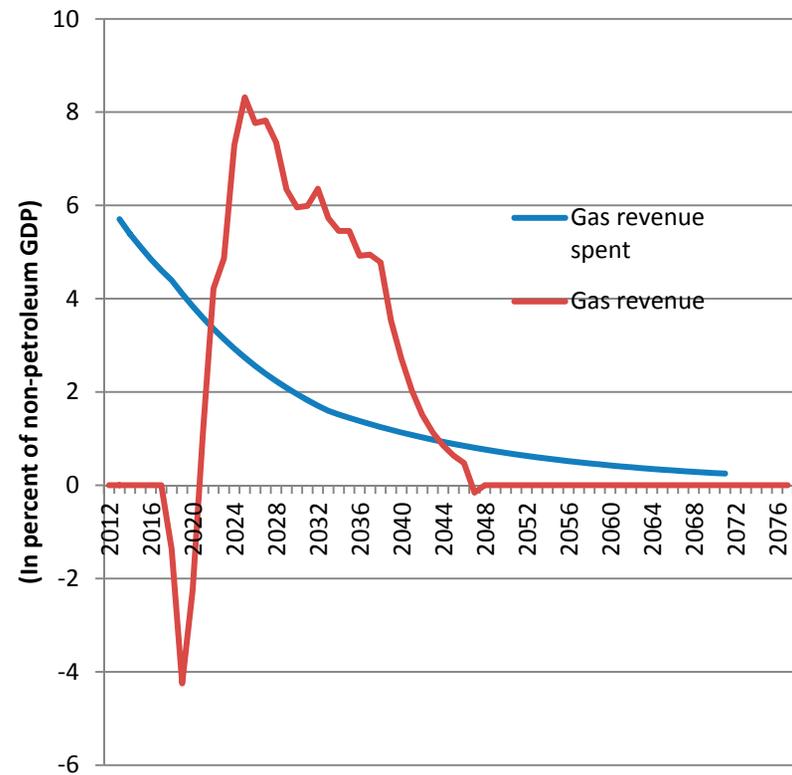
Spending more gas revenue today means spending less in the future (inter-temporal budget constraint)

Fiscal policy rule: Pure Permanent Income Hypothesis (PIH)

Tanzania: Gas Revenue and Spending (Strict PIH)



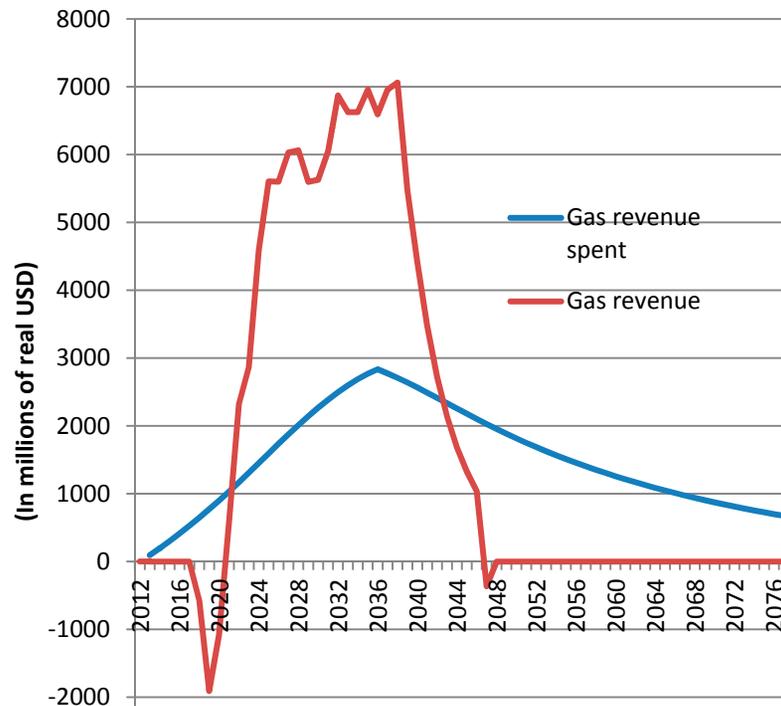
Tanzania: Gas Revenue and Spending (Strict PIH)



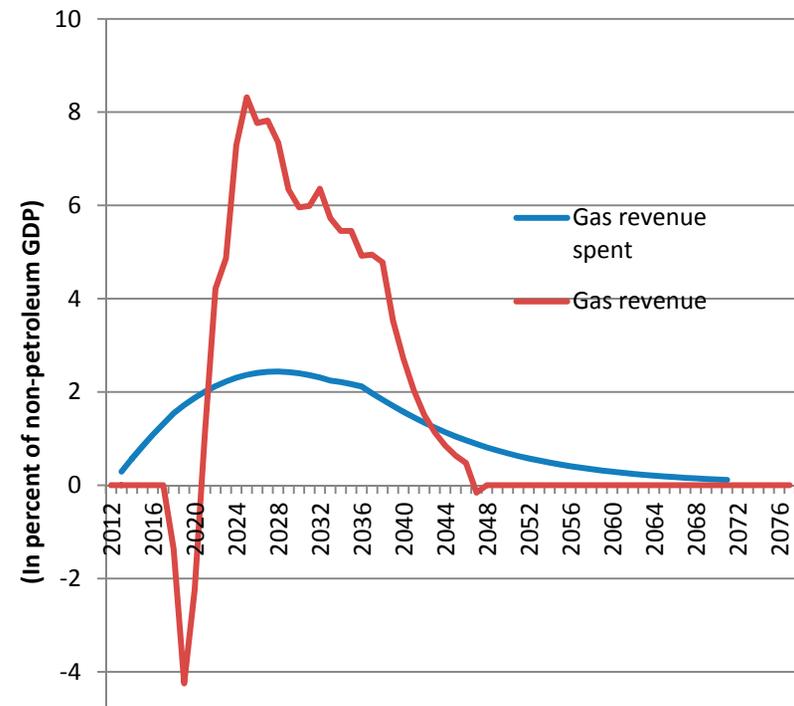
Non-gas primary balance (NGPB) = -rW = -r (net financial assets + resource wealth), where resource wealth is given by the cumulative discounted future gas revenue

Fiscal Policy Rule: Flexible PIH

Tanzania: Gas Revenue and Spending (Flexible PIH)



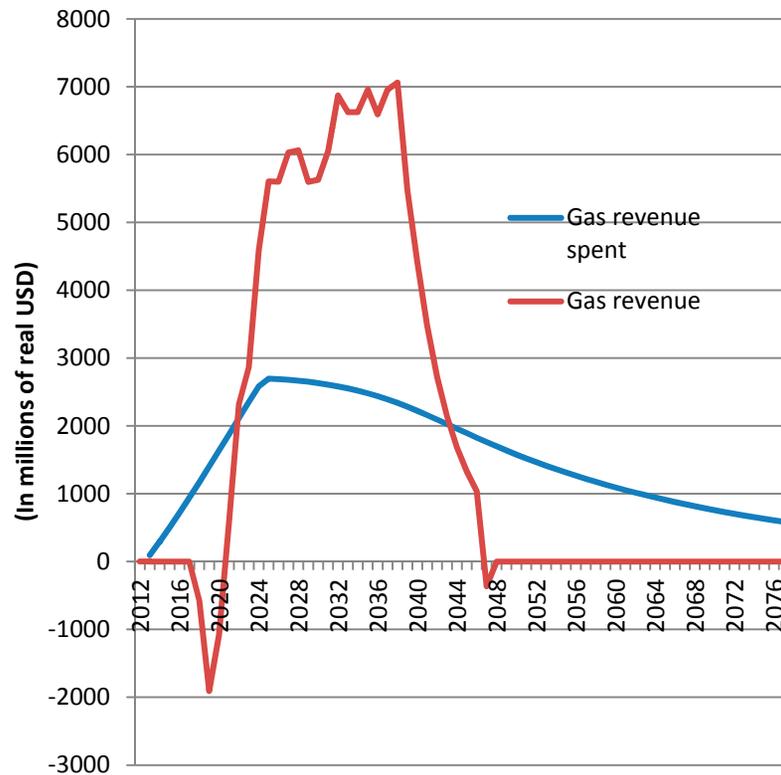
Tanzania: Gas Revenue and Spending (Flexible PIH)



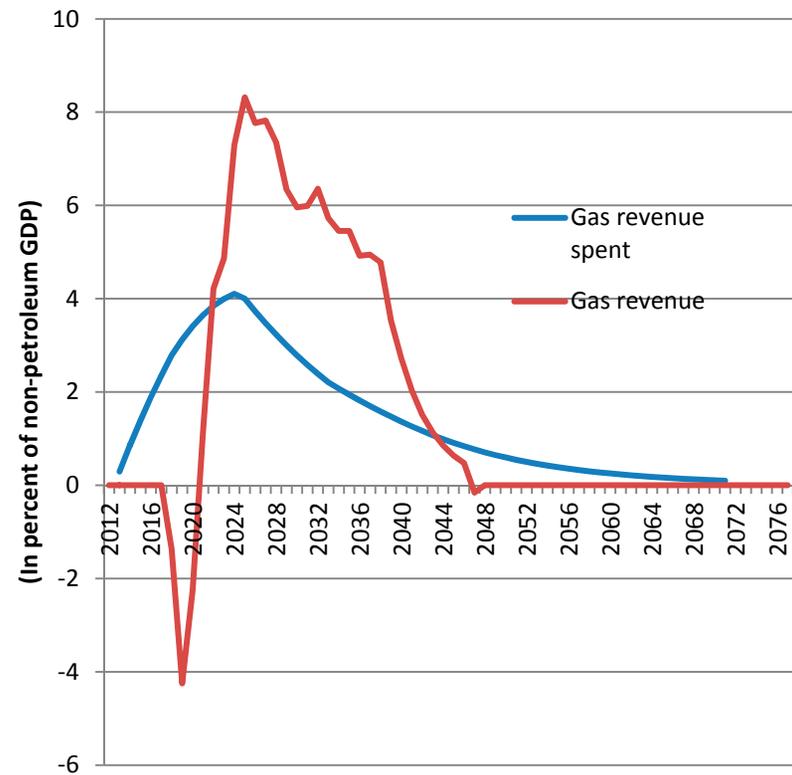
NGPB $\stackrel{3000}{=} -rW + \delta$; if spending of gas revenue is front-loaded ($\delta > 0$), in the subsequent year wealth (W) is lower as less gas revenue has been saved, hence the future deficit path is lower; accommodates gradual scaling up initially ($\delta < 0$)

Fiscal Policy Rule: Front-Loaded PIH

Tanzania: Gas Revenue and Spending (Frontloaded PIH)



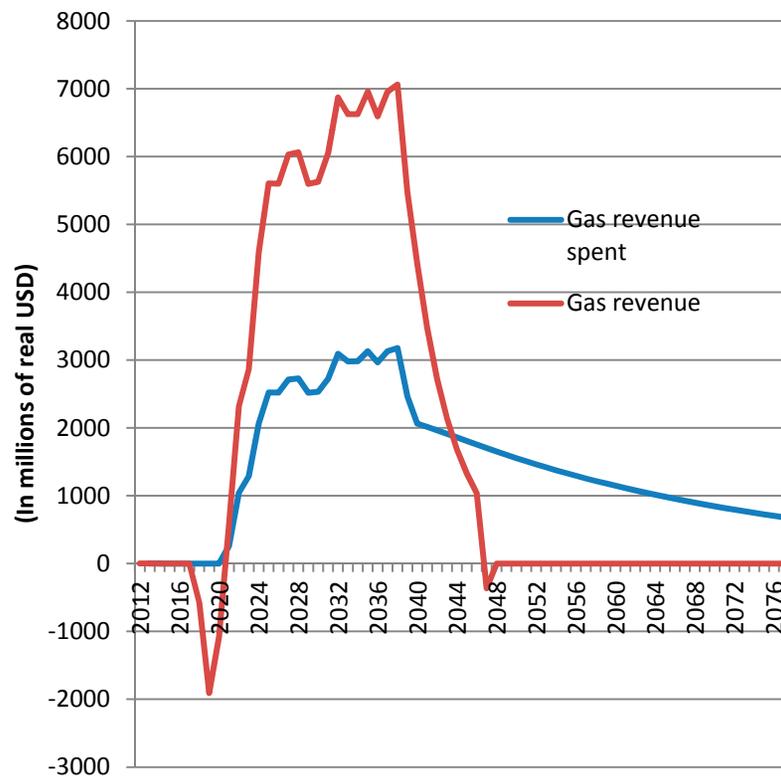
Tanzania: Gas Revenue and Spending (Frontloaded PIH)



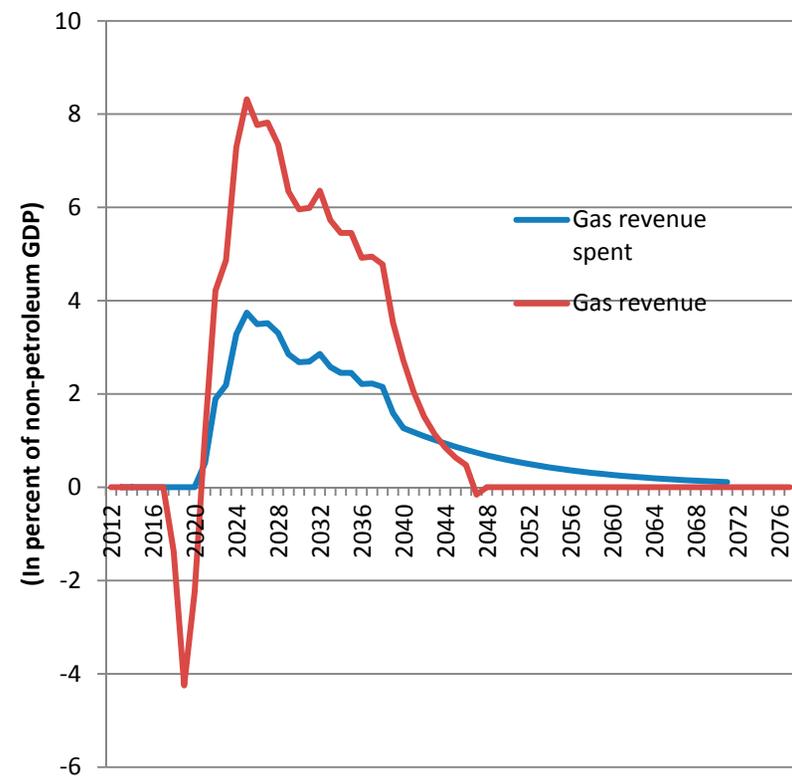
More frontloading of gas revenue spending will result in in sharper scaling-back later

Fiscal Policy Rule: Fixed Spending Proportion

Tanzania: Gas Revenue and Spending (Fixed Proportion)



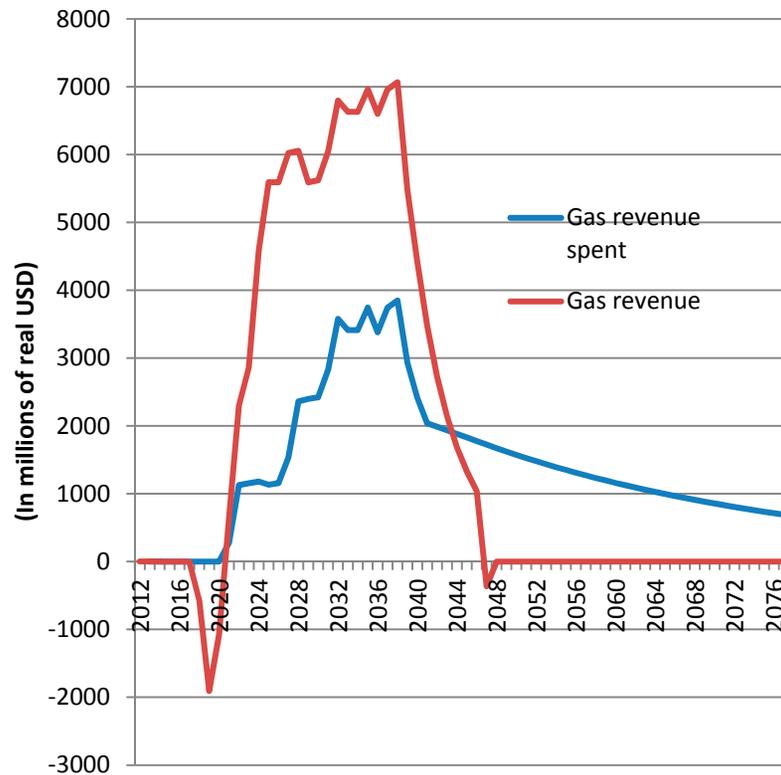
Tanzania: Gas Revenue and Spending (Fixed Proportion)



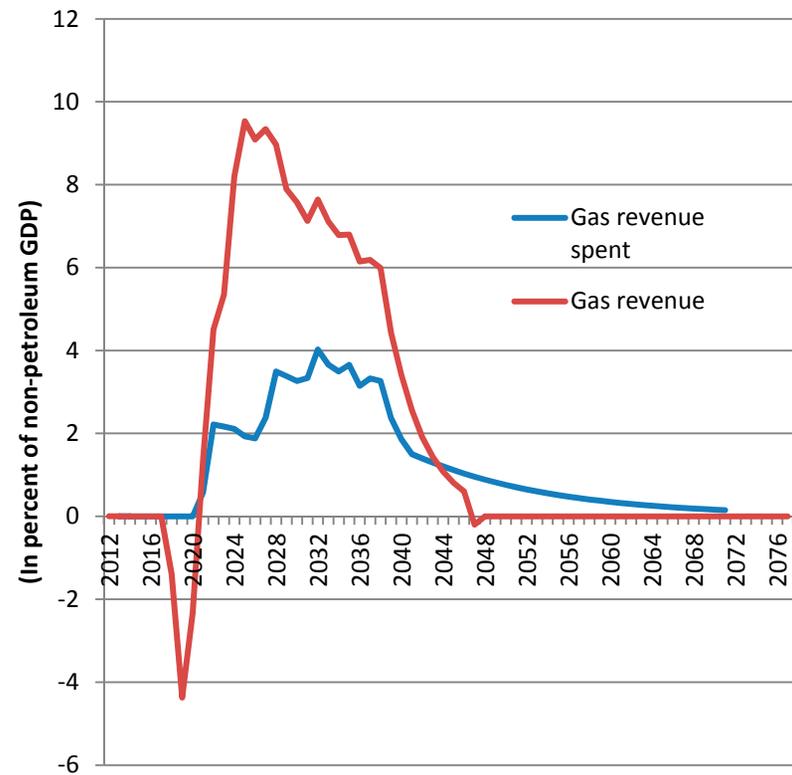
NGPB = -x% of annual gas revenue; as gas production winds down, move to PIH rule (-rW)

Fiscal Policy Rule: Budget Gas Price

Tanzania: Gas Revenue and Spending (Budget Gas Price)



Tanzania: Gas Revenue and Spending (Budget Gas Price)



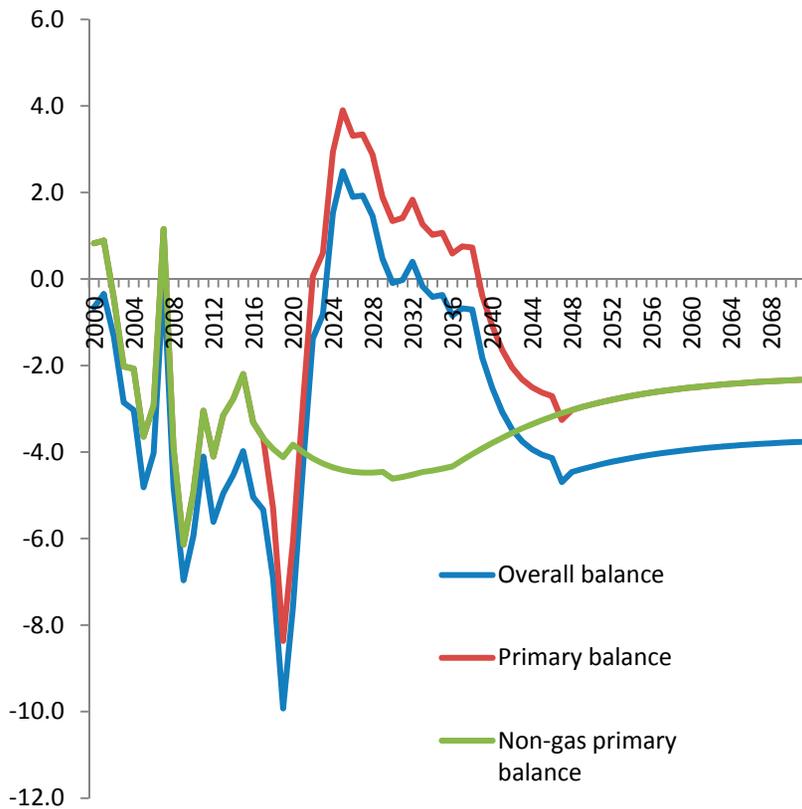
NGPB =-annual gas revenue recalculated at “budget” gas price; move to PIH rule as gas production winds down . No insulation against production volume changes.

Transitional Challenges

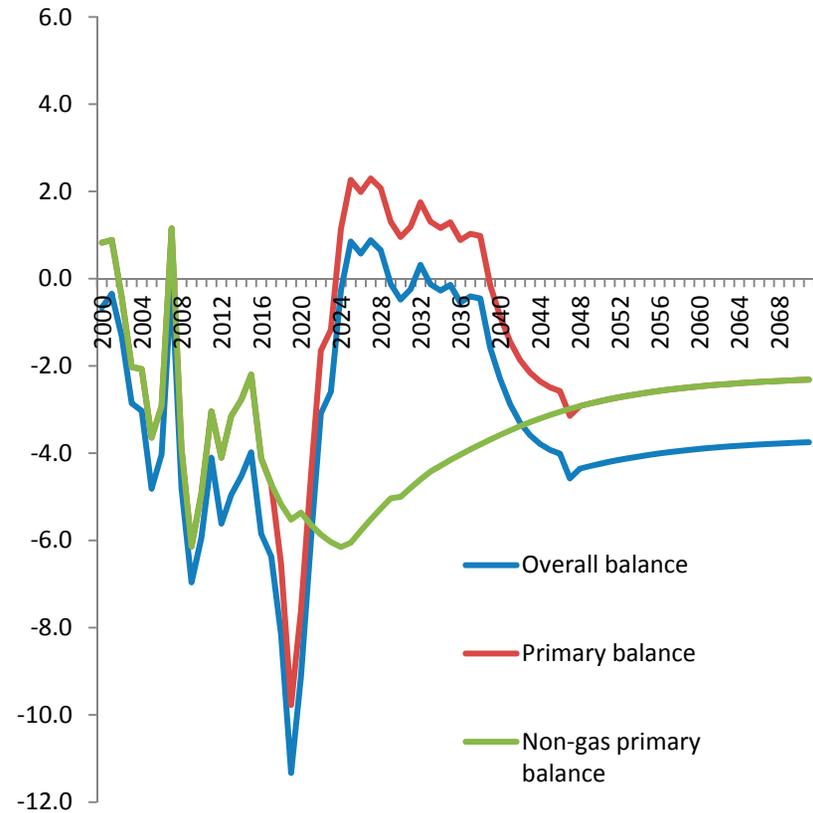
- Some modifications needed to transition to a new macro-fiscal framework:
 - Align the current baseline primary deficit path within the gas-inclusive framework
 - Calculate government wealth taking into account both future gas revenue and the existing stock of liabilities (debt). It may be desirable to reduce debt.
 - Eventually include gas revenue in the DSA (initially as a scenario), but not in base case until sufficient certainty that a large-scale gas project will go ahead
- A simple simulation exercise illustrates the potential impact of gas revenue: assumes the long run primary deficit of 2 percent is sustainable without gas (from DSA) and adds the additional deficit given by the spending rules above
- The simulation highlights the significant government borrowing required to participate as full equity partner in large-scale gas project (a policy decision still to be taken)

Simulated Fiscal Policy Paths

Tanzania: Fiscal Simulations (Flexible PIH)
(Fiscal balances, in percent of non-gas GDP)

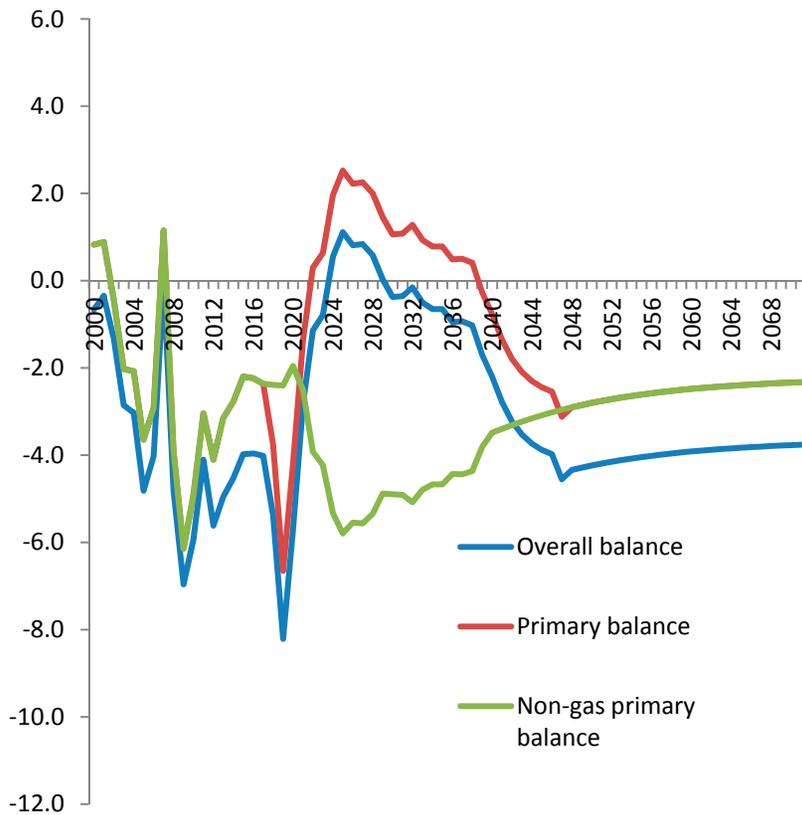


Tanzania: Fiscal Simulations (Front-loaded PIH)
(Fiscal balances, in percent of non-gas GDP)

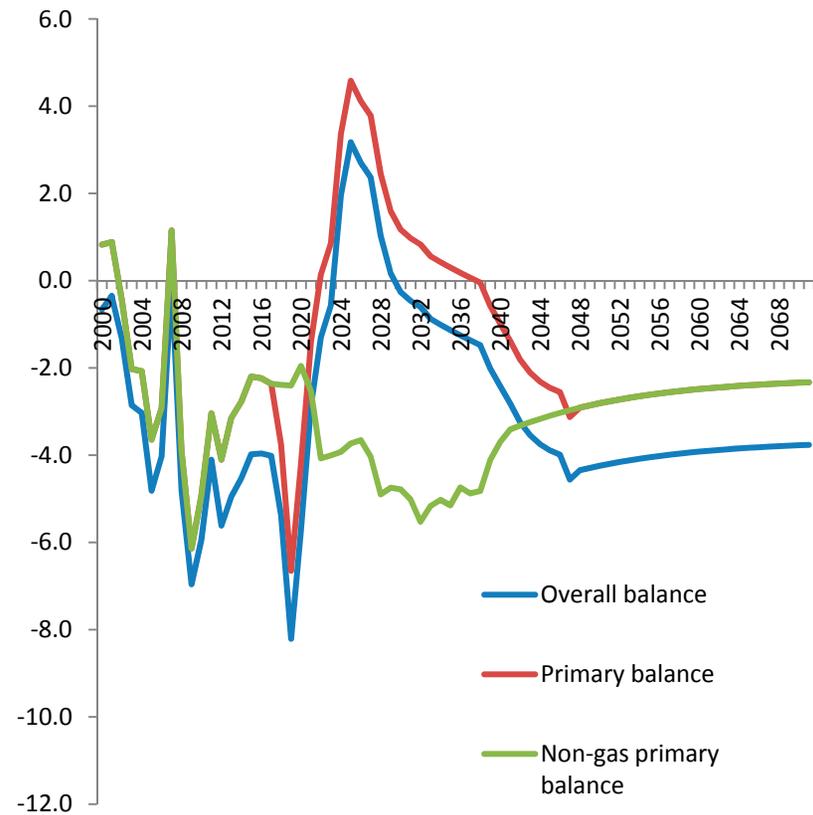


Simulated Fiscal Policy Paths

Tanzania: Fiscal Simulations (Fixed Proportions)
(Fiscal balances, in percent of non-gas GDP)



Tanzania: Fiscal Simulations (Price Rule)
(Fiscal balances, in percent of non-gas GDP)



Asante Sana!

FISCAL MANAGEMENT OF OIL AND NATURAL GAS IN EAST AFRICA

East African Community and
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January 15 – 17, 2014
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