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| RESEARCH ARTICLE

Politics of Fiscal Regimes and Economic Instruments in Petroleum Industry

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| ABSTRACT
The paper has extensively discussed fiscal regimes and their typologies, such as concession and contractual. It also discusses the choice of petroleum system on the title of petroleum resources with the state, transfer of ownership of petroleum resources, sharing of cost and profit oil, timing of the revenues, changes on revenues also changes profitability, annual work programme & budget and risks responsibilities. While the paper also pinpoints the economic instruments and typologies such as market creation, property rights, charge systems, liability systems, financial systems, and bonds systems, it also evaluates key frameworks/protocols/conventions such as United Nations Frameworks Conventions on Climate Change (UNFCCC), Kyoto Protocol and United Nations Conferences on Sustainable Development (UNCSD). Moreover, the paper analyses the fiscal regimes and economic instruments for the twin-gain of tax revenue and environmental protection. The paper deployed a case study of South Sudan and Uganda, process tracing, and empirical literature review as a methodology for this study. Although the paper concludes with contractual typology, particularly production sharing agreement/contract (PSA/PSC) as the best fiscal regime for South Sudan as well as Uganda, it recommends future research to thrust out the weaknesses of the PSA/PSC model and economic instruments in the petroleum extraction business as well as the politics surrounding it.

| KEYWORDS

Politics, fiscal regimes, concession, contractual, economic instrument, petroleum system, framework, protocol, tax, environmental protection.

| ARTICLE INFORMATION

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1. Introduction

Fiscal regimes and economic instruments are crucial not only in the oil and gas sector but also in the environmental aspects of the industry. While fiscal regimes govern the relationship between host governments and contractors (IOCs), the collection of tax revenues and the protection of the environment have become essential for the sustainable exploitation of hydrocarbon resources globally. Although fiscal regimes have historical roots in Venezuela and Indonesia from the 1960s, they are now widely applied across many African states and, above all, are political in their implementation.

While fiscal regimes are important, the economic instruments used to implement these regimes—aimed at revenue generation and environmental protection—are equally vital. As the oil and gas sector moves into its development phase in various countries, debates are ongoing about the most suitable fiscal regimes that can enhance government revenue through effective taxation while ensuring robust environmental safeguards.

Key questions arise: What are fiscal regimes? What typologies exist within these regimes? What economic instruments are used to implement them? How are these instruments structured to achieve both tax revenue and environmental protection? Have these approaches been successful to date? What legal provisions support these frameworks? What are the analyses of fiscal regimes and economic instruments for win-gain of tax revenue and economic protection? What are the politics of fiscal regimes and economic instruments? This paper will address these questions.

2. The concept of fiscal regime and their typologies

Fiscal regime is a concept that has been critically discussed by various oil and gas scholars as well as practitioners. Scholars such as Mgaya, Asanga, et al., Johnston, Blake & Roberts, Tordo, Askinson & Stiglitz, Ayuk, Bower, Markus, Peloquin, and Alfarsi, to mention but a few have defined fiscal regimes in different but ubiquitous ways.

A fiscal regime is defined as a taxation system that includes, amongst others, royalty payments which have been put in place by policies, laws, and regulations of a particular host government (Mgaya, 2019). More generally, the fiscal regime usually includes all aspects of concession and contractual systems that administer the relationship between the host government and the contractor, often referred to as IOC (Ayuk, 2022). Universally, various fiscal regimes exist with different taxation and contractual conditions. These conditions indeed vary from state to state, and thus, some states could use more than one fiscal regime in the exploitation of hydrocarbon resources (Mgaya, 2019).

States may choose between concessionary regimes or contractual systems, such as service and production-sharing agreements (Johnston, 2003). Regardless of the fiscal regime selected, the interests of International Oil Companies (IOCs) focus on recovering costs incurred during the exploration and production phases, as well as on how profits will be shared with the government. This typically depends on tax regulations and the economic principles that support petroleum commercialization in the country.

3. Typologies of fiscal regimes

3.1 The concession regime

The concessionary regime is one of the oldest fiscal frameworks currently utilized in many developed countries. Under this system, the host government grants a license for the exploitation of hydrocarbon resources to a contractor or licensee in exchange for royalties and taxes (Tordo, 2007). Royalties can be categorized into various types, including ad valorem progressive based on production, ad valorem progressive based on price, ad valorem progressive with an operating ratio or profit, and royalties applied to the operating margin (net profit royalty), all aimed at accurately reflecting the host government's entitlements (Wright, 2017).

The duration of the license can extend over several years, typically depending on the host government's regulations. While the concession regime allows for greater autonomy in resource exploitation, the host government generally receives only royalties and taxes from the acreage after the concession license is granted, without sharing in production revenues. A typical concession regime grants four major rights to the contractor or IOC:

Right for either an exclusive or near-exclusive development of oil and gas resources for a long period of time;

a) Right for extensive control over the plan and manner in which the oil and gas resources ought to be developed;
b) Right for oil and gas resources development over a vast acreage and
c) Right to all oil and gas resources and profit accumulation in tandem with the payment of royalties to the state, represented by the host government (Inkpen and Moffett, 2011).

The concession regime gives the contractor a very great discretion in exploration, appraisal, development, drilling, and production activities. During the production, the contractor takes title to its share of oil and gas resources at the tip of the wellhead (Markus, 2015). This take, known as a share, is also christened as entitlement. This entitlement is equal to gross production less a royalty payment to the government. If the royalty is 10%, the contractor could lift 90% of production (Askinson and Stiglitz, 2006). In addition, the contractor takes charge of financing, logistics, and ownership of all facilities for exploration and production, as well as other infrastructural equipment (Peloquin, 2016). Although the profits generated by the contractor on production are taxed by the state, the real tax rate is always the subject of intense debates in the petroleum resource country.

To be sure, the concession regime has remained the oldest system of arrangement between the host country and the IOC. Nonetheless, the concession regime has endured as a system against the interest of the majority of the host states who have agreed on the direct expropriation of petroleum resources or applied other alternative methods to the extraction of these petroleum resources (Hughes, 2016). Indeed, the acquisition and use of concession licenses is not restricted to developed countries, as argued by many new comers in the oil and gas industry. While it is a license model regime in the Middle East and North Africa (MENA), the concession regime has remained dominant in many developed countries, such as the United Kingdom and the United States, where it is commonly used.

3.2 Contractual regime

Under the contractual regime, there are two main types: the production-sharing agreement (PSA) or petroleum-sharing contract (PSC) and service agreements. Service agreements can be further categorized into pure service agreements and risk service agreements. I will now discuss this contractual regime in detail.

3.3 Production Sharing Agreement (PSA)/Petroleum Sharing Contract (PSC)

The Production Sharing Agreement (PSA), also known as a Production Sharing Contract (PSC), is a contractual type of petroleum regime used in the administration of upstream petroleum resources. This agreement was first developed in Venezuela in 1960 and later adopted by the Indonesian government around 1967 (Roberts, 2016).

The Indonesian government viewed concession agreements as remnants of colonialism and imperialism, prompting a shift away from them. As part of its nationalistic efforts in petroleum resource exploitation, Indonesia established the PSA/PSC framework, which has become a significant model in the oil and gas sector. Since the 1960s, PSAs and PSCs have gained popularity as the preferred type of petroleum agreement in various countries across Sub-Saharan Africa, North Africa, Asia, and the Pacific regions (Bower, 2009).

In contrast to concession agreements, PSAs/PSCs do not grant the contractor, licensee, or IOC ownership rights over the petroleum resources at the wellhead. Ownership and rights to oil and gas resources remain with the state, represented by the host government through the National Oil Company (NOC). This representation is significant as it establishes government ownership of hydrocarbon resources. However, the ownership is partial because the PSA/PSC allocates a portion of petroleum income to cover exploration, development, appraisal, drilling, and production costs (Sharp, 2009).

The IOC bears the burden of these exploration and production costs, which the NOC recovers during production. Once the costs incurred by the IOC are recovered, the remaining revenues from profit oil are split between the host state and the IOC based on agreed percentages. For instance, in the Indonesian model, this split is 57 percent for the host government and 43 percent for the IOC (Alfarsi, 2018).

While the PSA/PSC has garnered significant interest from both governments and contractors, it has a rich history of evolution through four generations in Indonesia. This evolution provides insights into how petroleum market dynamics are changing and how the interpretation of laws and fiscal benefits for host governments and contractors can influence various PSA scenarios in the oil and gas industry (Blake and Roberts, 2006). The evolution of the PSA is discussed below:

a) 1st Generation of PSA/PSC (1967-1975). In this generation, the host state represented by the government reserved the ownership rights of all the petroleum resources exploited in its territory, including those that are stored at the export terminals (Inkpen and Moffett, 2011). Although there were no royalties and tax rates applied in this generation, the host government was given substantial revenues as a result of a definite profit split irrespective of cost recovery.

b) 2nd Generation of PSA/PSC (1976-1983). Recalling the OPEC market interventions in 1974, all petroleum producing states were then cognizant of the growing value of their assets and their equal increase in relative negotiating power (Markus, 2015). Additional springy cost recovery limits were now more widely used as more problematic production areas came to attention. The profit oil split was pushed upwards to 86/14 percent between the host government and the contractor in many bazaars to gain the higher crude oil price.

c) 3rd Generation of PSA/PSC (1984-1987). Consolidation of trivial adjustments to corporate tax rates, corporate tax obligations, and investment tax credits amplified the general complexity of PSA/PSCs but did not radically change its encouragements or discouragements to the contractor. The profit split between the IOC and the host government moved to 76/24 percent (Ayuk, 2020).

d) 4th Generation of PSA/PSC (1988-Present). During the volatility of oil prices in the late 1980s, which resulted in the lowest oil prices in history, new PSAs/PSCs were signed, commencing in 1988. This price volatility prompted increased flexibility in the terms and conditions of new PSAs/PSCs, providing additional negotiating space for states to attract IOCs, who could then negotiate for favorable oil prices in the international market (Blake and Roberts, 2006). Many new investments in exploration, development, and production were viewed as marginal, with decreasing profit prospects.

The profit split between the host government and the contractor/IOC has evolved to create a more balanced distribution, often settling around 55/45 percent. Today, these profit splits vary from one host country to another; some states have adopted a 75/25

formula, favoring the host government, while others maintain a 50/50 split. In some cases, the host government has taken as much as 70 percent of the profits, leaving the IOC with 30 percent. As a result, the PSA/PSC regime is often characterized by the dynamic of IOC take versus government take.

3.4 Pure Service Contract

This is known as the non-risk service contract in which the contractor carries out exploration, development, drilling, production, and decommissioning work programme on behalf of the host government for a designated fee. All regular exploration and development risks are borne by the host state and its government during extraction (Mulwa, 2020). This situation is more typical of the Middle East and North Africa (MENA) regions, where resource-rich states often possess substantial capital but lack the necessary expertise.

Pure service contracts are relatively rare but share similarities with typical business operations in the petroleum industry. While many pure service contracts resemble PSA/PSC regimes, the payment structure can be based on either production sharing or profit-sharing agreements. However, these service contracts often incorporate unique contractual elements used to determine the service fee (Johnston, 2003).

3.5 Risk Service Contract

The service contract agreement is primarily structured around a straightforward formula in which the IOC pays a cash fee for producing petroleum resources. As noted earlier, all petroleum production belongs to the host state, represented by the government. The contractor/IOC is typically responsible for covering all capital expenses related to the exploration, appraisal, development, drilling, and production of petroleum resources (Asanga et al., 2021). When exploration efforts are successful, the government allows the IOC to recover those costs through the sale of petroleum products, ensuring that the contractor/IOC receives its fee, which is often based on a share of the remaining revenues (Johnston, 2003). This fee is generally subject to taxes and bears similarities to petroleum sharing contracts/agreements.

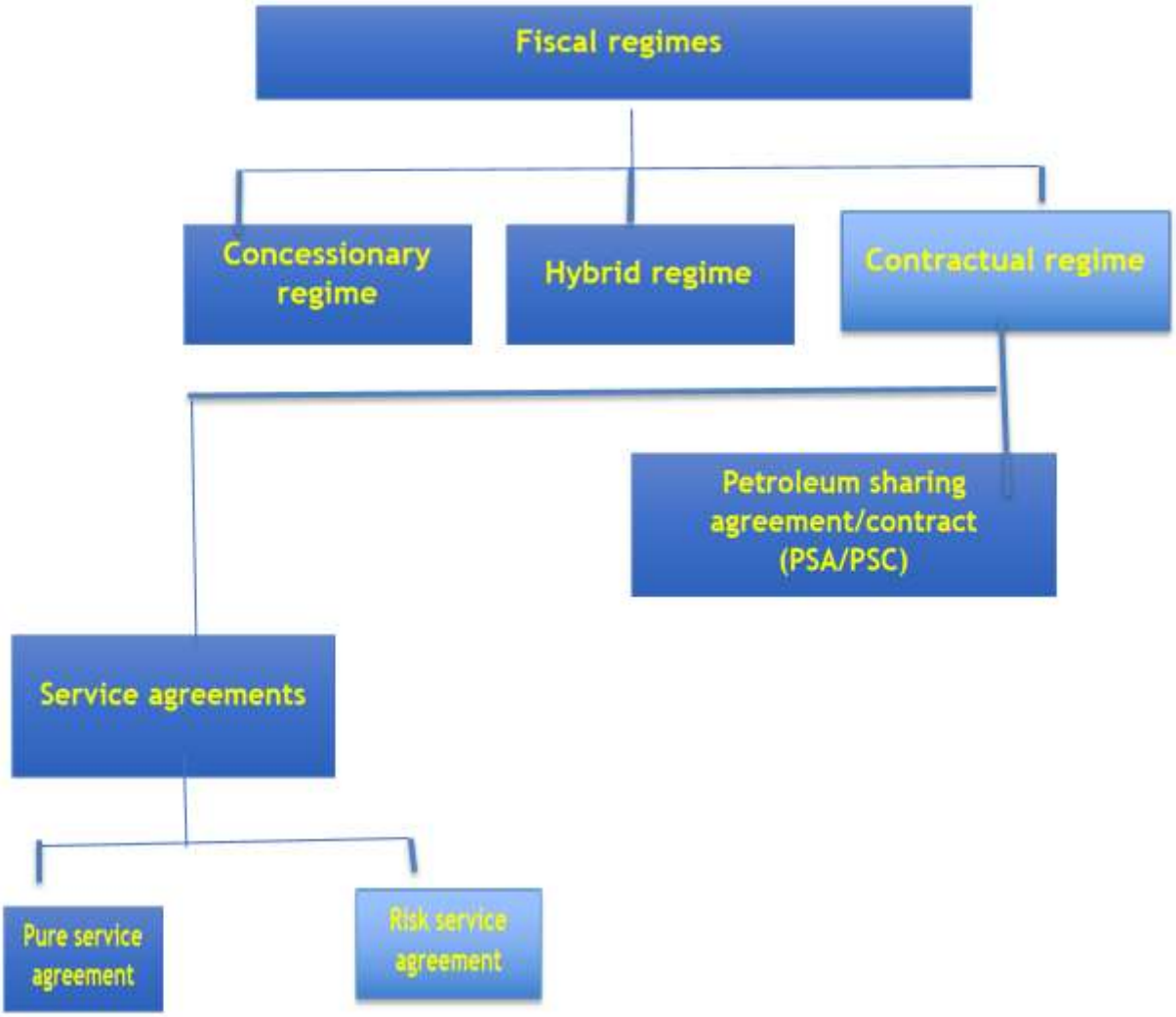
There are various types of service contract regimes. The term service contract is widely accepted but quite unsuitable in the oil and gas industry. The oil and gas industry barely acknowledges the service contract as created in the upstream segment of the business. Typically, when the term "service contract" is used, it is often understood to refer to a risk-related contract. Occasionally, the term "risk service contract" is also employed. In a risk service contract, the contractor/IOC assumes all the risks but has the potential to generate profits (Tordo, 2007).

3.6 Hybrid Regime

This is a blended regime type that combines the features of concession and PSA/PSC. In most jurisdictions, the petroleum authority regulates operations of the petroleum sector. These operation activities include licensing, approval of the work programme and budget (WPB), approval of the field development plan (FDP), drilling and production, and, above all, decommissioning activities (Schwerhoff, 2019). The petroleum hybrid regime type incorporates regulatory features to commercial terms and ensures that the host government and IOC both benefit from the concession and the contractual regimes' systems. This indicates that there should be win-win benefits for both the host country and the IOC. While the concession regime is considered old and outdated, some African countries, such as Egypt and Angola, still utilize this model. The PSA/PSC regime has emerged as a new legal framework for the oil and gas industry in Africa and globally. South Sudan employs a variant of the PSA/PSC known as the Exploration Production Sharing Agreement (EPSA).

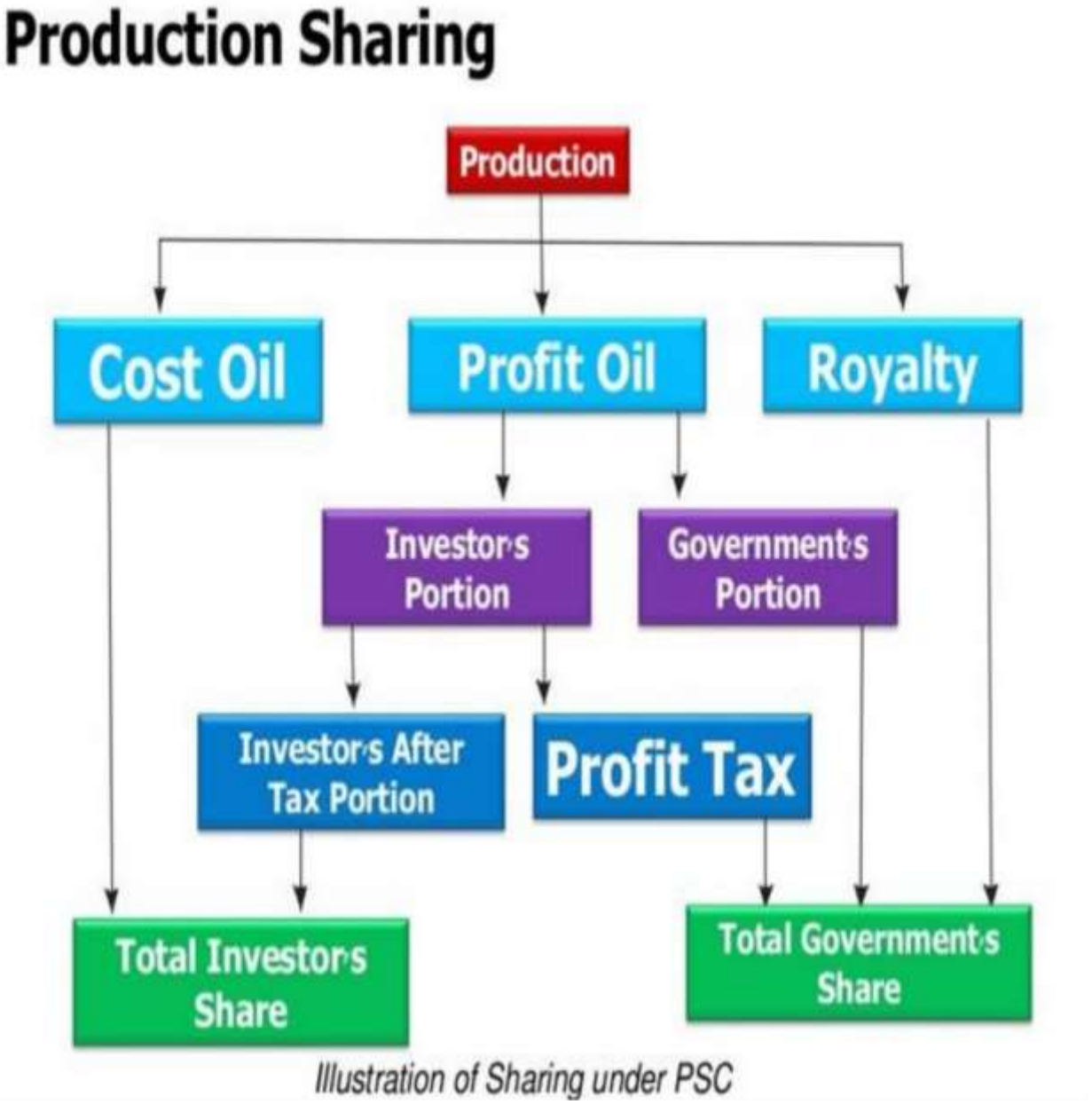
However, the distinction between the concession and contractual regimes is blurred as states compete to attract IOCs.

Figure 1: The classification of fiscal regimes



Source: Author

Figure 2: Production Sharing Agreement



4. Choice of petroleum fiscal system and the main design features of this scheme

The oil-producing country should adopt the Petroleum Sharing Agreement/Contract because it has the following features:

4.1 Title of petroleum resources remained with the state

The state, represented by the host government, always has the power over petroleum resources. That means the state regulates the issuance of license to the IOC through its Ministry of Petroleum, Energy, or Hydrocarbon Resources. It checks the compliance of the IOC in the exploitation of oil and gas resources. While the state has this title, it always recognizes and enhances that the IOC plays its contractor role in the harness of petroleum resources. While the host government is represented by the National Oil Company (NOC), it has its shares, known as the government take, which can increase from time to time depending on the negotiations between the host government and the IOC.

4.2 Transfer of ownership of petroleum resources

Although the title of petroleum resources stays with the state and its host government, the ownership of the petroleum resources in PSA/PSC is technically transferred to the IOC at the delivery point, unlike in the concessionary system where the ownership of

petroleum resources is transferred to the IOC at the wellhead (Sharp, 2009). Hence, the IOC's control of the petroleum resources in PSA/PSC is moderately low, while that of the government is moderately high. The cost recovery limit in PSC is frequent in the case of IOC, and it is none in the case of the IOC for the concessionary system (Markus, 2015). While the ownership of production facilities is typically on the state of its host government represented by the NOC, the limit to the IOC profitability is significant in the PSC fiscal system (Hughes, 2016).

4.3 Sharing of cost and profit oil

As the IOC explores, discovers oil, and produces, the cost and profit of oil are shared in the agreed percentages. Currently, in the context of South Sudan, the sharing of cost and profit oil is in the ratio 45:55 in blocks 3 & 7, being operated by Dar Petroleum Operating Company (DPOC). That means 45% of the revenues are held back by the IOC as the cost for producing oil while 55% is taken as the profit oil, and it is split between the host government represented by the National Oil Company (NOC) and the IOC. The IOC block license in South Sudan is based on the equities in the consortium.

4.4 Timing of the Revenues

With PSA/PSC, bonuses are easily acquired during the signing of the PSA/PSC, and thus, they become signature bonuses. Moreover, other bonuses are acquired by the state during production, and these bonuses are called production bonuses (Alfarsi, 2018).

4.5 Changes in revenues also change profitability.

PSA/PSC can be designed on neutrality basis. For instance, neutral fiscal tools offer the state through the host government the same share of revenues, whether profitability increases or decreases. They can also be designed on progressive fiscal tools which give the host government a larger share of profits when profit increases. Besides, the PSA/PSC can be designed using regressive fiscal tools that give the government a lesser share as profit increases (Blake and Roberts, 2006).

4.6 Annual Submission of Work Programme and Budget (WPB)

The IOC or the consortium is required in the PSA/PSC model to submit its Annual Work Programme and Budget (WPB) to the Ministry of Petroleum or Energy Resources every year. This is then approved by the Ministry. It means that the IOC or the consortium should prepare a WPB that is realistic and can easily be accepted and approved by the Ministry which is a regulator.

4.7 Risks Responsibility

Most of the risks are carried by the IOC (the licensee) because it is the one that does exploration. During the exploration if the IOC hits a dry well, then the IOC incurs exploration losses. Moreover, if it hits a wet well and later on the wets well runs dry during the production, then the risks can be shared between the IOC and the host government, represented by the NOC. This is done through the cost of oil. When the NOC doesn't want to pay for these production losses through the cost of oil, the IOC can then pay and later on recover its money through cost recovery (Peloquin, 2016). However, an IOC operating PSA/PSC should be quite conscious of cost recovery limits and the ability to recovery investment expenditures (Inkpen and Moffett, 2011).

5. The concept of economic instrument and their typologies

The concept of economic instruments is a key term in both economic and environmental science and law. It highlights the importance of economic growth while emphasizing tools for environmental protection and management. Since its gradual development beginning in 1989, this concept includes instruments like tradable emissions permits, charges, and emission taxes for managing petroleum resources and environmental impacts (Opschoor, 2010).

Economic instruments ideally illustrate the balance between developmental needs and environmental concerns, integrating economic and environmental policy through cost-saving or efficiency goals. They are characterized by market dynamism, adaptability, and the ability to address diverse conditions (Shiffman, 2006). Any instrument that aims to transform the behavior of economic actors by incorporating environmental costs or resource depletion into the incentive structure qualifies as an economic instrument (Rietbergen and Abaza, 2000). These instruments are widely recognized as essential for sustainable development, promoting the effective integration of development and economic strategies while enhancing the efficiency of environmental systems and policies.

5.1 Typologies of economic instruments

Market creation. The market is a crucial economic instrument for driving economic development and prosperity in a country. While it is a critical infrastructure for any economy, it is made up of the population who then create this market (Badiru & Osisanya, 2013). This population of buyers and sellers is taxed by the government to pay revenues as well as regulated by the government to protect the environment.

Property rights. Property rights help in the internalization of the market and in ensuring that economic progress is achieved and environmental degradations are avoided. Once property rights are acknowledged, the economy's fiscal regimes work, and environmental protection is achieved (Chamley, 2006).

Charge systems. These charges are referred to also as environmental charges creating a pointless basis of misconception and always a basis of acrimony between economic instruments and environmental protection. Thus, charges are taken as recompences associated with the use of innovations, services, and infrastructure and are similar to market prices' labels for individual goods and services in order to collect revenues and protect the environment (Badiru & Osisanya, 2013).

Liability systems. They are referred to as obligations that are encountered in the economy and in the environment. They include non-compliance charges, natural resource damages, joint and several liabilities, legal liabilities, enforcement incentives, and liability insurance. Failure to meet these obligations can adversely affect revenue generation and environmental protection.

Financial systems. These economic instruments are very essential. They include financial and accounting subsidies, grant payments, soft loans, transfer incentives, subsidized interests, foreign currency at below equilibrium exchanges, sectoral funds, and revolving funds (Panayotou, 1994). Effective financial systems are essential for effective tax administration and environmental management.

Bonds' systems. There are various types of bonds' systems that are critical for economic management and environmental protection. While they include environmental performance bonds such as forest management, the bonds' systems also include land reclamation bonds such as mining and geology. Besides, they also include environmental accidents' bonds such as oil spills and gas flares and vents. We also have waste delivery bonds, deposit refund systems, specialized hazard bonds, and deposit refund shares. All these bonds' systems are meant to discourage tax system failures and encourage environmental protection.

5.2 Key frameworks/protocols/conventions for environmental protection

As discussed above, fiscal regimes are very critical for the effective exploitation of hydrocarbon resources. While they are very important, they cannot stand without economic tools to ensure the twin-gain of tax revenue and environmental protection. In order to ensure environmental protection, it is critical to appreciate key protocols for environmental protection before the analysis of fiscal regimes and economic instruments.

There are various frameworks and protocols that have promoted environmental protection. They include the United Nations Framework Convention on Climate Change (UNFCCC), which was rectified by member states on 21st March 1994. UNFCCC aims to convert environmental factors that affect climate. These factors include environmental degradation and pollution. The other protocol is the Kyoto Protocol, which was signed on 11th December 1997 and entered into force on 16th February 2005. This protocol operationalizes the United Nations Framework Convention on Climate Change by urging industrialized countries to reduce their greenhouse gases and emissions. Besides, the Rio+20 United Nations Conference on Sustainable Development (UNCSD) is another great protocol that was inked on 20th -22nd June 2012. This international instrument refines the institutional framework for sustainable development and advancement of the "green economy." While Uganda has rectified and adopted these international frameworks, protocols, and conventions on the environment, South Sudan has yet to rectify and adopt them. The main challenge of South Sudan is the lack of national environmental law to domesticate environmental protection frameworks, protocols, conventions, and treaties and, above all, to regulate the environment.

6. Analysis of fiscal regimes and economic instruments for the twin-gain of tax revenue and environmental protection

Both fiscal regimes and economic instruments serve as taxation tools and are political in implementation. While taxes are significant for any country's economic development, they are also significant for environmental protection. Although the primary objective of taxation is to fund the activity which is a public good concern, another objective of taxation is to pay the deduction from the sales or profits as part of civilization and for an organized society in the running of the country business (Philip et al., 2010). The case of South Sudan and Uganda will be analyzed on how the fiscal regime and economic instrument of taxation have been recognized by taxation laws of the two countries for the purpose of gaining revenues as well as for the purpose of environmental protection. The analysis of fiscal regimes and economic instruments of taxation for twin-gain of revenues and environmental protection is as follows:

I. **Pollutions taxes.** They include effluent taxes and emission taxes. These prototypes of taxes are critical for revenue generation as well as environmental protection. Under both laws of South Sudan and Uganda, pollution taxes are importantly recognized. South Sudan Taxation 2009, amended 2011 section 115 (1) recognizes the importance of pollution taxes that are paid by a polluter for the government to earn taxes and for the environment to be protected as

well. This section stipulates that the polluters need to pay taxes for their operations in South Sudan to avoid licenses' withdrawal (Taxation Act, 2009, amended 2011). Moreover, South Sudan Petroleum Act 2012 section 61 (3) further argues the importance of controlling the pollution in the oilfields. It stipulates that the licensee or a contractor shall create a pollution damage fund for a clean-up and rehabilitation of the site in which the population damage is found, and the failure of which shall attract liabilities in the forms of pollution taxes (Petroleum Act 2012). The Environmental Regulations of South Sudan (ERSS), 2015, section 5 (2) stipulates the necessity of complying with environmental protection provisions from the Petroleum Act, 2012 that specifies the penalties, such as pollution taxes, that should be paid by the licensee or contractor who pollutes the environment (ERSS, 2015).

On the other hand, the Ugandan government, through the National Environment Act 2019, sections 85 (1) and (2) regarding pollution control licenses, mandates that anyone engaging in business must avoid polluting the environment. Section 85 (2) emphasizes that fees levied for pollution shall adhere to the "polluter pays principle" outlined in section 81. This means that (a) those who pollute the environment on a large scale bear the primary responsibility for funding environmental cleanup, and (b) the fees collected will support individuals who engage in conservation efforts by reducing their fees for activities aimed at minimizing pollution (National Environment Act, 2019). Additionally, this section imposes penalties for pollution while providing incentives for non-polluters. Furthermore, the Uganda Income Tax Act, Cap 340, section 89G addresses taxation on petroleum licenses, imposing fees for environmental pollution (Income Tax Act, Cap 340). This section also offers tax incentives for licensees who implement pollution prevention measures.

II. **Inputs taxes.** These are taxes charged on goods and services acquired for business activities (Philip et al., 2015). Known as Value Added Tax (VAT) in many jurisdictions, these taxes are levied on products like fuels, petrochemicals, pesticides, and industrial chemicals. While they encourage reductions in the use of these products, thereby decreasing toxin generation, they do not provide direct incentives for reducing environmental degradation. The effectiveness of input taxes as incentives for lowering environmental impact depends on the demand for these products and efforts to limit their production (Banafi and Flippini, 2010).
In South Sudan, the Taxation Act of 2009, amended in 2011, section 70 (2) (e), stipulates a VAT that allows taxpayers to claim a rebate or credit for input taxes related to business activities (Taxation Act, 2009, amended 2011). Similarly, Uganda's Taxation Act, Cap 340, section 89GA (1), states that the amount a licensee may withhold in relation to oil and gas operations shall not exceed the cost of oil derived from those operations (Taxation Act, Cap 340). Additionally, the Environmental Regulations of South Sudan (ERSS) 2015, section 6 (1), highlights the importance of imposing stringent VAT on companies to preserve the environment in which they operate (ERSS, 2015).

III. **Products taxes.** These are taxes on final products that are crucial for effectively managing consumer-related environmental degradation, especially when consumers are aware of the environmental costs reflected in higher prices. Environmental pollution taxes on final products can be designed to maintain global competitiveness; for example, exports may be exempted since they are not consumed locally while ensuring that equal environmental responsibilities are upheld (Panayotou, 1994).

Product taxes are levied after the completion of the business cycle. Both South Sudan and Uganda recognize the significance of product taxes in their tax laws and environmental regulations, yet these charges often lack strong incentive mechanisms. When pollution is reduced, it is essential to encourage the consumption of less harmful products, not solely because producers have incentives to decrease pollution but because pollution levels have indeed diminished.

To effectively prevent pollution, product charges should be set at sufficiently high levels to promote recycling and reuse of materials, thereby enhancing environmental conditions. Despite their limitations, the revenue-generating potential of these charges is significant, particularly when demand for the products is high and prices are inelastic. Administrative efficiency is typically improved since product charges are largely self-regulating. This makes them especially relevant for developing countries, where low monitoring and enforcement capabilities can complicate the use of other regulatory and economic tools.

IV. **Exports taxes.** An export tax is a typology of the tax system where the government levies charges on goods or services that are being exported out of the country (Philip et al., 2010). As argued earlier, a tax is a fee that the government levies on different items like income, property, and transactions to generate revenue for the public good. It is like an input that people and entities have to give as support to the government. An export tax is a path for the government to make money from the goods and services that are leaving the country. The South Sudan Taxation Act, 2009 amended 2011 section 71 (1) articulates export tax as the foundation for economic growth and prosperity of the people of South Sudan and must be taxed reasonably to avoid environmental damage to the importing country (Taxation Act, 2009 amended

2011). Uganda Taxation Act Cap 340 section 111 subsection (1) stipulates that export is very key and must be substantially taxed to generate revenues for the country as well as provide incentives for environmental protection to the importing country (Taxation Act, Cap 340). The Environmental Regulations of South Sudan (ERSS), 2015 section 7 (1) emphasizes the importance of export taxes as revenues to support environmental stability (ERSS, 2015). Besides, the National Environment Act 2019 of Uganda stresses that (1) any person who wishes to export goods and services is required to first apply for a license from the competent authority ensure that exports are environmentally safe. (2) The application for a license, as stipulated in subsection (l), shall be escorted by moving documents with respect to the export in a manner set by regulations. (3) The Authority may grant a license for exports from Uganda, where it is certified that the applicant should have, subject to section 99 (2), obtained the consent of the country to which the export is hailing. The National Environment Act 2019 further stipulates that exports are revenue generation as well as environmental safety for all the citizens for exporting and importing the country. (4) Before issuing a license under subsection (3), the authority shall alert the designated National Authority of the state into which goods and services are destined for export by sending a copy of export documents acknowledged by the applicant and (5) the authority may offer a license for export of goods and services upon in a given desired conditions (the National Environment Act, 2019).

V. **Imports taxes.** Import taxes are direct taxes and on the other hand, duties are indirect taxes (Brown, 2004). While the imposition of tariffs is on goods, the duties are apportioned to consumers. Import taxes may include tariffs. Tariffs can be of two types, namely import tariffs and export tariffs. Duties, on the other hand, include customs duties and excise duties. It is important to distinguish between duties and tariffs: duties are taxes imposed by governments on exported or imported goods, while tariffs specifically apply to imported goods. Duties are typically calculated as a fixed percentage of the goods' value, whereas tariffs vary depending on the type of imported goods. The primary purpose of duties is to generate government revenue and protect domestic industries, while tariffs aim to limit imports in order to shield local industries from foreign competition and to safeguard environmental and natural resources.

In South Sudan and Uganda, tax laws emphasize the significance of import tariffs. The Uganda Taxation Act, Cap 340, section 89QA, states that import tariffs are essential and must be calculated and paid by the importing agency to the government of the Republic of Uganda. Similarly, the South Sudan Taxation Act, 2009 (amended 2011), section 98, recognizes import tariffs and excise duties as crucial and mandates their payment to the government of South Sudan based on established rates.

Furthermore, the National Environment Act 2019 of Uganda acknowledges the importance of environmental protection in relation to tariffs and duties on imported goods, and it allows for tax relief on imported items that support environmental conservation. In contrast, South Sudan's National Environment Law is still in the drafting stage at the Ministry of Justice and has yet to be enacted by the National Assembly.

7. Politics of fiscal regimes and economic instruments

While South Sudan and Uganda have extensive fiscal regimes and elaborate economic instruments stipulated by laws, these regimes and economic instruments have not been adequately implemented (Asanga et al., 2021). Leaders have politicized the fiscal regimes and economic instruments for their own interests and left the interest of the public in trouble. Thus, the discovery of hydrocarbon resources in these developing countries is a worrying trend as the resource curse/paradox of plenty has already taken place in South Sudan, which is a matured province, while Uganda will have its first oil in 2025.

8. Conclusions

The paper has advanced a strong argument on the petroleum fiscal systems, their types, and the preferred choice of petroleum fiscal system of an oil producing country as well as economic instruments. While the paper appreciates the existence of the petroleum fiscal systems, it argues that the concessionary system is no longer good and is irrelevant as it absolutely transfers the title and the ownership of petroleum resources to the IOC, which only gives the state through the host government, royalty, or tax. This system cannot be applied today to the emerging oil-producing states because it erodes the sovereignty of the host country. Although the PSC is the recommended fiscal system for an oil-producing country, given that it increases the state participation interests/shares, it should be borne in mind that the PSC system doesn't work alone. It requires the government to closely supervise it so that both itself, which is always represented by the NOC, and the licensee, which is always represented by the IOC, can keenly implement the provision of the PSC. The PSC has features that, if implemented can help in the efficient extraction of the hydrocarbon resources in an oil-producing country. The paper discusses key frameworks/protocols for environmental pollution, and it analyzes fiscal regimes and economic instruments for the win-gain of tax revenue and environmental protection in the context of South Sudan and Uganda.

While I have extensively addressed the petroleum fiscal systems, their types, and the preferred fiscal choice as well as economic instruments as exhibited in the paper above, I still feel that I have not exhaustively discussed the politics of fiscal systems and economic instruments given that I neither monopolize the knowledge nor do I have absolutely custody over this body of knowledge.

8. Recommendation for Future Research

Future research is hereby recommended to political and legal scholars in the oil and gas industry to examine the weaknesses of the PSA/PSC model and economic instruments in the petroleum extraction business as well as the politics surrounding it.

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