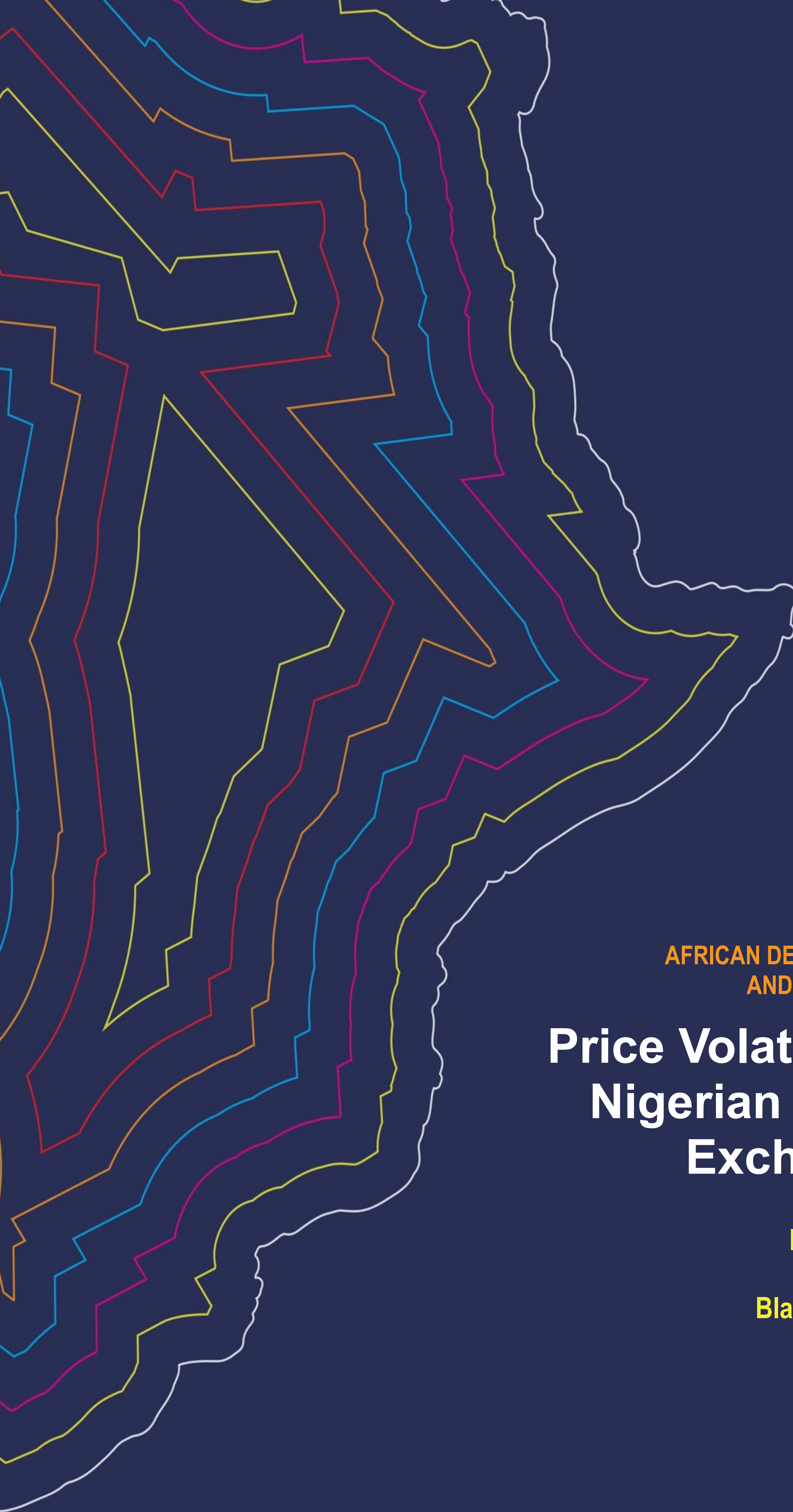

AFRICAN DEVELOPMENT POLICY
AND PRACTICE INSIGHTS

Price Volatility and the Nigerian Commodity Exchange (NCX)

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Executive Summary

Much of the literature on economic development focuses on the various ways specific policies have been adapted to manage price volatility. While the core of this discussion has often revolved around Western assumptions, there is a noticeable gap when it comes to African commodity exchanges, their deep-seated patterns, and their role in addressing price volatility. The sheer scale of this heightened challenge deserves examination.

This policy note seeks to address this imbalance by concentrating on the functioning of the Nigerian Commodities Exchanges in mitigating price volatility. The note intends to underscore the potentially significant impact of price volatility and the interplay of factors influencing it. The findings carry far-reaching implications for development policies and should serve as a fundamental reference for policymakers interested in improving commodity exchanges across the continent.

Statement of Policy Issue

A range of noticeable global drivers on commodity price fluctuations allows us to view the way commodity prices are changing. The disruptions resulting from the global pandemic induced a widespread reduction in commodity demand. This decrease, coupled with a delayed response to supply challenges, can be traced back to capacity constraints and the emergence of supply chain bottlenecks (World Bank,2018). An additional noteworthy aspect pertains to the ongoing conflict in Ukraine, which has led to exacerbated inflationary pressures. This is underscored by the crucial roles played by both Ukraine and Russia in the global supply of commodities such as essential energy and food resources. These developments continue to exert a substantial influence on economic growth and play a crucial role in worsening global commodity insecurity.

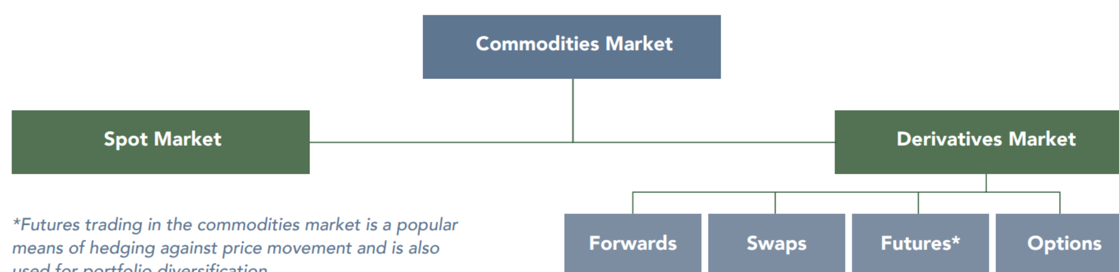
In principle, it is inherent to suggest that price changes transmit signals that capture information about how supply and demand affect market stakeholders. This is a point to be emphasised in analysing the impact of price volatility. The recognition calls into question the conventional assumption about the meaning of volatility and its impact on the economy. At the same time, the significance of understanding the drivers of commodities through the lens of developing market economies permits us to understand how price volatility on local commodities poses heightened challenges for policymakers and a range of stakeholders, more importantly, the local actors. As such, an understanding of local commodity exchanges is increasingly crucial, and even more so is a concentrated emphasis on African local commodity exchanges for effectively managing price volatility.

In the following policy note, we aim to expand on some of the lesser-known trends driving price volatility in the context of Africa. Our aim is to illustrate how commodity exchanges, with a specific emphasis on the Nigerian Commodity Exchange (NCX), can proficiently manage and mitigate volatility. We highlight the current operational strategies of the NCX and present policy prescriptions that we believe cover the breadth necessary for effective implementation in addressing price volatility in commodity-dependent developing countries.

Commodity Exchanges

When it comes to the nature of commodities and how they are traded, commodity markets can be categorised into two main types: spot markets and derivatives markets. These two categories serve different purposes and have distinct characteristics that contribute to the overall functionality of commodity exchanges (see Figure 1). In spot markets, commodities are bought and sold for immediate delivery and settlement. The term 'spot' refers to the current or spot price, which is the price at which a commodity can be bought or sold for immediate delivery, typically within a few days or on the spot. Derivatives markets, on the other hand, deal with contracts that derive their value from an underlying asset, such as a commodity. These contracts are known as futures and options, and they are financial instruments that allow participants to speculate on or hedge against future price movements.

Figure 1. Overview of the Commodities Market



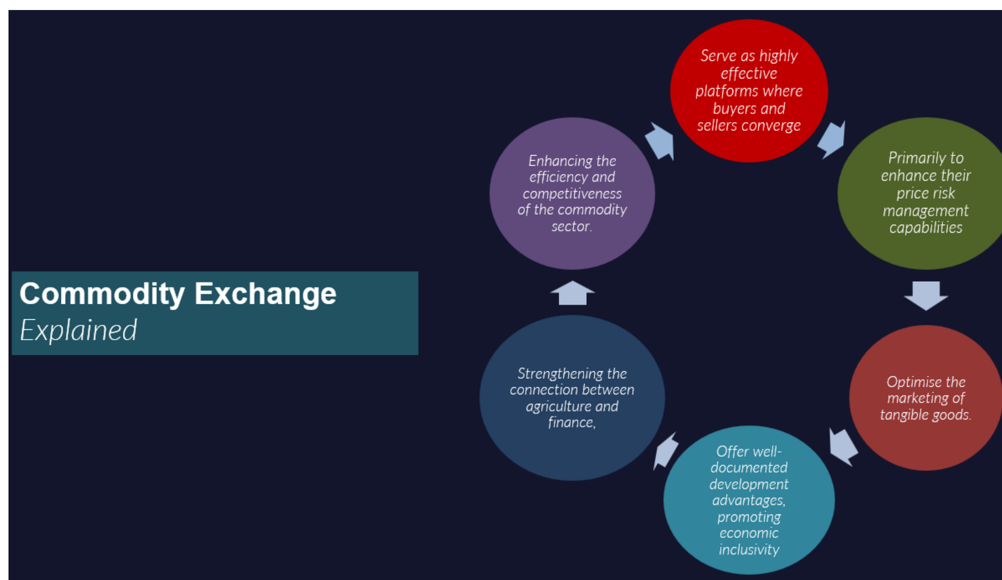
Source: SEP-NCX (2021)

Now, onto this scene lands commodity exchanges. Why is there so much interest in 'commodity exchanges'? Among the suggested drivers, two primary reasons have emerged as central to this growing interest. First and foremost, we are confronted with the prevailing undercurrent of resource scarcity and price volatility. A range of factors, including increased global consumption and geopolitical uncertainties, have intensified the demand for essential commodities. As the demand for commodities like energy resources and agricultural products continues to surge, it frequently outpaces the available supply. As such, commodity exchanges have emerged as key institutions, that provide a robust and meticulously regulated platform. Within these exchanges, market participants find a dependable arena for hedging against issues of scarcity and price fluctuations.

Secondly, the interplay between commodity exchanges and economic growth is quite evident, particularly in regions where agriculture and natural resource extraction play an

important role. Commodity exchanges operate like powerful engines that help boost economic development, through their capacity to attract investments and support long-term planning. This means that industries focused on farming and natural resources have reliable and efficient places to trade their goods. This doesn't just help those industries grow; it also makes a big contribution to the overall economic progress of the countries where these exchanges are active.

Figure 2. Commodities Exchanges Explained



Context of Africa

Now let's turn to the issue at hand. Often overlooked is the simple fact that Africa has achieved remarkable economic growth, attributable to improved macroeconomic policies and a more favourable environment for doing business. However, even as we evaluate these individual factors, it becomes apparent that the continent remains highly dependent on commodities (Christensen, 2016; World Bank, 2018). Beyond an assessment of the independent reasons, it is evident, that when commodity prices decline, the growth momentum is at risk, potentially reversing the substantial progress made so far. This leads us to the essential question: What are the appropriate and necessary macroeconomic measures to address price fluctuations?

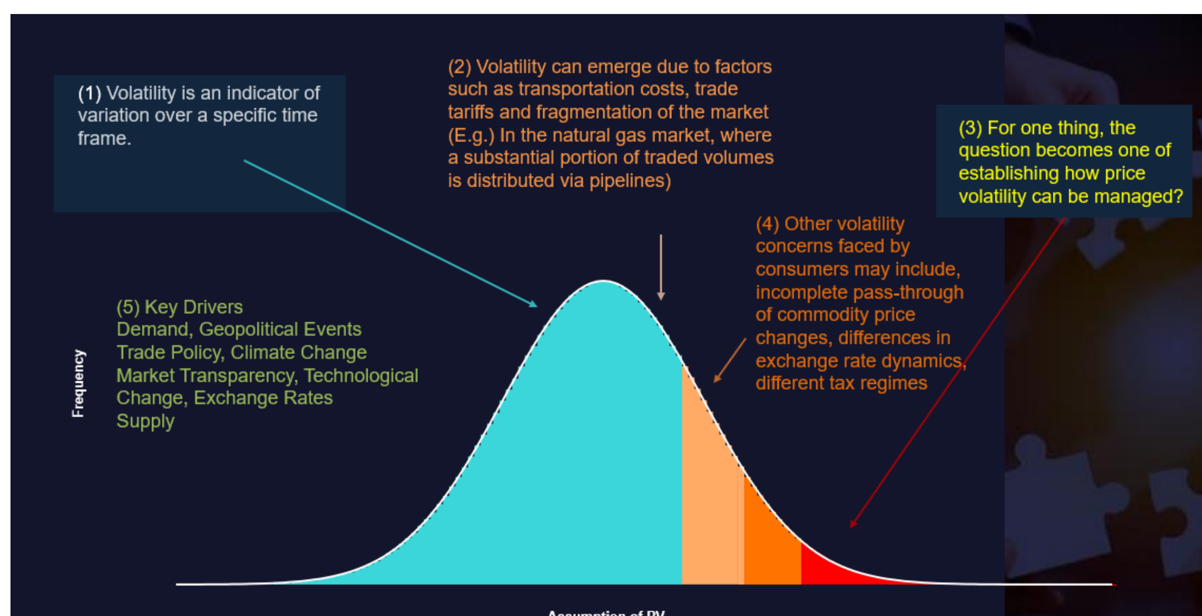
It follows, therefore, that commodities are usually assessed based on their stability or volatility. At issue in the current conjuncture, is the persistent volatility in commodity prices, which complicates the task of making accurate predictions. We make this judgment based on a variety of information. For instance, the second quarter of 2022 witnessed a price decline across non-fuel commodity groups, with similar patterns noticed with fuel commodities. The primary cause of the price movement can be largely attributed to the war in Ukraine and the fact that many central banks were pursuing aggressive monetary instruments to combat inflation (UNCTAD, 2023a). The discussion here is that such price movements affect export-dependent and commodity-import-dependent countries. In turn, and particularly within Africa, which is

import-dependent, such price fluctuations will continue to account for a large part of the inflation overshoot and undoubtedly lead to an increase in the price of fuel, energy, and food. This will be felt by households, most acutely by those on lower incomes. Even more intriguing is the observation that policy frameworks in this context have encountered challenges in implementing safeguards to mitigate commodity price volatility (IMF, 2023). That's why several African initiatives have been focused on repositioning their commodity exchanges, aimed at consolidating government efforts for commodity output, but more importantly, improving price discovery and moderating commodity prices. This pushes us to briefly discuss related aspects of price volatility as it represents the main weight of this policy note.

Price Volatility

Price volatility refers to the degree of variation or fluctuation in the price of a financial instrument, commodity, or asset over time. In simpler terms, it measures how much the price of a particular item moves up and down within a specific period. When an asset or commodity has high price volatility, it means that its price experiences significant and frequent fluctuations over a short period. As it turns out, low price volatility suggests that the price remains relatively stable and does not change significantly. The existence of volatility can be attributed to a range of factors such as trade tariffs, transportation costs and in other cases, fragmentation of markets such as in natural gas, where substantial portions of traded volumes are distributed via pipelines (UNCTAD Report, 2023; Omeihe, 2023).

Figure 3. Price Volatility



As discussed above, it's clear that price volatility is driven in stronger momentum by a range of key drivers. These drivers are very dependent on how price responds to the two big moving parts of supply and demand, that is whether they are affected or not.

Where price fluctuations occur, it's important to note that these are often induced by a variety of bottlenecks, which, in practice, can surpass the actual value of commodities. It is entirely possible that the economy will experience periods taking different forms, commonly referred to as 'shocks,' during which prices are influenced by factors like intermittent, restrictive, backstop, and cyclical shocks.

Figure 4. The interplay of factors influencing price volatility

The Interplay of Factors Influencing Price Volatility		
	Meso-Level Supply Factors (MSF) Located in the Individual Commodity Markets	**Macro-Level Demand Factors (MDF)-Located at the Global Activities**
Cyclical Shocks	Meso-Level Shocks: On the meso-level supply side, commodity price volatility can be driven by cyclical or periodical factors, such as seasonality in agricultural markets and unexpected production shortfalls	The global pandemic had a substantial influence on fluctuations in global commodity prices. travel restrictions resulted in decreased prices for commodities, including oil, metals, and agricultural products
Intermittent Shocks	Intermittent: Weather occurrences are challenging to forecast and can frequently lead to supply disruptions in commodity markets, especially within the agricultural sector. E.g., *adverse weather conditions in Thailand/Australia led to a decrease in rice production and subsequent price hikes*	An expansive monetary policy marked by low interest rates can lead to overall demand and bolster economic growth, potentially resulting in heightened demand for commodities.
Restrictive Shocks	**Targeted**: Disease and pest outbreaks can lead to meso-level shocks (40% and 250billion USD Lost)	**Targeted:** Imposing constraints on trade, such as restrictions on the export of food or outright bans, led to instability during periods of crisis
Backstop Shocks	**Backstop bottlenecks**: Labor Disputes and Work-Related Disagreements can result in delays and interruptions in production, consequently causing meso-level supply disruptions.	Speculators (investors) also have an impact on fluctuations in commodity prices, regarding commodity prices using futures, options, and various financial tools.

Let's take cyclical shocks, for instance, often arising from the seasonality in the agricultural market. This is particularly likely to impact commodity prices at two levels, which we categorise as the meso-level, where supply is located within individual commodity markets, and price is driven by cyclical supply shocks leading to unexpected production shortfalls. For example, cases such as droughts and flooding in Australia and Thailand resulted in shortages in wheat and rice production (see the UNCTAD report, 2023a).

On the macro level, these cyclical shocks on the demand side can take the form of global events that, at times, lead to economic contractions causing reduced demand. One of the strengths of this argument, due to its macro-level nature, is that these shocks are likely to have an overarching impact on general commodity pricing. For instance, the COVID-19 pandemic, with its associated travel restrictions, led to decreased prices for commodities, including metals and agricultural products.

While price volatility can be influenced by the interplay of meso-level supply (MSF) and macro-level demand factors (MDF), the knowledge and understanding of price volatility remain important, as they provide investors, traders, and businesses with insights into the investment decisions they need to make. The need to rethink how to manage these shocks remains an important lesson for policymakers in handling price volatility.

NCX: Lessons that capture the problem statement.

A notable feature of the limitations of the Nigerian Commodity Exchange (NCX) is the longstanding concern that it has been ineffective in stimulating economic development. This concern is shared by two key stakeholders: policymakers and industry experts, who argue that the NCX has fallen short in driving agricultural production. This shortfall has given rise to doubts regarding the potential benefits that could have been realised.

In the broader economic context, it is important to recognise that the ineffectiveness of NCX not only increases transaction costs but also hinders its intended role in promoting economic growth. For example, an ineffective local commodity exchange not only raises transaction costs but also proves inadequate in facilitating the establishment of fair commodity prices for both buyers and sellers. Notably, one of the pronounced risk factors for a country like Nigeria that is reliant on commodities is price volatility, which affects all stakeholders. Indeed, the strength of the NCX hinges on several key factors, including the number of participants, their educational backgrounds, and their understanding of how the exchange operates.

Underdeveloped segments of the commodity ecosystem and a lack of enabling legislation including existing laws & and regulations

More interesting is that the Nigerian context is characterised by underdeveloped segments of the commodity ecosystem. This underdevelopment is primarily due to the prevalence of weak, formalised institutional arrangements and a lack of enabling legislation to support its development (Amoako, 2019; Omeihe and Omeihe, 2022). Particularly concerning the nascent nature of the exchange, which we argue is a shortcoming, is the inadequacy of the NCX's corporate governance framework. In fact, there has been considerable discussion surrounding this, as evidenced by the assessment of the strategic execution committee (2021), which underscores the critical need to implement effective risk management practices, that are essential for reforming the exchange and positioning it as a globally respected institution.

Shortcomings in establishing a robust corporate governance framework within the NCX and the imperative need for the implementation of efficient risk management procedures

Two issue areas to consider. The first is crucial to how the NCX underpins its strategy, specifically how it assesses its overarching strategy. One of the important aspects in this regard is improving the deficient strategy, which needs to be more effective and designed to foster collaborations with stakeholders within the ecosystem. These stakeholders cannot be sidelined, as the consequences may be awkward. However, there are some further difficulties surrounding the need for setting the parameters for such a strategy. That is, determining the extent of collaborations that can be established with other commodity exchanges across the region and beyond. As a case in point, collaboration and learning from best practices from the Ethiopian stock exchanges can yield potential benefits.

A deficient overarching strategy at the NCX that restricts collaboration with prosperous commodity exchanges in Africa and beyond

Now, we know that this sort of approach would only be effective when there is a consistent effort in driving awareness, one in which the future of the NCX is driven by stakeholder buy-in. On its own, financial inclusion within Nigeria and by extension the continent continues to remain a limitation and must be recognised as an essential part of the NCX strategic toolkit.

Absence of financial inclusion initiatives, demanding a need to make financial services affordable to farmers;

However, we understand that improving the NCX cannot be achieved without involving all potential stakeholders in the ecosystem. We also acknowledge that this won't be an easy task. Instead, we must emphasise the need for financial inclusion initiatives that provide protection for farmers. This is crucial because the NCX must ensure that financial services are accessible and affordable while also addressing risks beyond that point. It is encouraging to note that the NCX's strategic executive committee is already adopting these approaches, which is a positive development. Nevertheless, given the increasing number of stakeholders operating in the informal sector and their challenges in accessing formal institutions, it is unsurprising that such approaches must be carefully considered and pursued to enhance engagement within the NCX.

Policy Recommendations

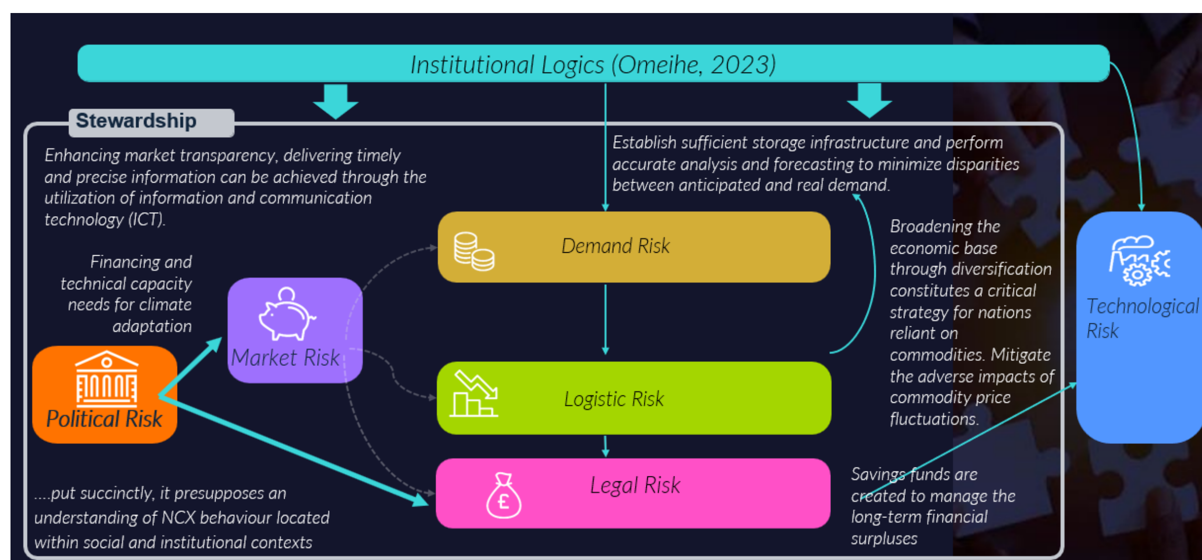
Continuing the theme of managing price volatility, as discussed earlier, one essential way to view the role of the NCX is to ensure that it serves as an exchange that provides benefits to the Nigerian economy by stabilising commodity prices and empowering stakeholders economically. This is of paramount importance. The NCX should also acknowledge that effective trading of contracts will undeniably enable traders to reduce the potential risks associated with price fluctuations. We concur with UNCTAD's (2023a) report that allowing traders to purchase fixed quantities of produce for future delivery can help mitigate the risks associated with commodity price volatility.

In other words, building on this insight, we have observed that commodity exchanges can serve as a tool for managing price volatility, as seen in their implementation in other commodity-dependent developing countries like Ethiopia and South Africa (AFDB, 2013; UNCTAD, 2023b). Moreover, transmitting this knowledge back home through collaboration with commodity trading companies and adopting modern trading strategies can offer valuable insights into capitalising on periods of high commodity volatility to enhance profits. This approach has the potential to yield benefits for accelerated growth and possible reforms.

Moreover, on our part, we have seen common themes across many commodity exchanges suggesting a lack of transparency in the way their activities are conducted. It is therefore important to enhance the overall activities and processes to ensure that stakeholders have access to essential information and can respond to potential risks effectively. The much larger picture of the timely and precise delivery of information can be facilitated through the use of relevant technological platforms and information sharing.

There is also a challenge regarding the breadth and depth of storage warehouse capacities in Nigeria. States like Niger, Nasarawa, Kogi, Taraba, Plateau, and Benue require the development of adequate storage infrastructure. According to the SEP report (2021), despite the average crop output in these states, they lack sufficient available warehouse capacities. Therefore, the NCX needs to cover significant ground in establishing adequate warehouse storage infrastructure. But in order to do so, the NCX must seek adequate funding initiatives and provide support incentives to local stakeholders, as this will be instrumental in facilitating accurate forecasting and analysis. In this way, the issues surrounding the minimisation of disparities between anticipated and actual demand can then closely align with the accurate data, which, in turn, can reduce the scope for price uncertainties and the systemic consequences of price volatility.

Figure 5. Suggested framework for managing price volatility



But the uniqueness of the landscape means that there will be a plethora of systemic risks, which we are not naïve to. That's why in reflecting on the discourse and range of issues, and as academics, we have located the suggestions on the theoretical lens of the institutional logics perspective, which put succinctly, presupposes an understanding of economic behaviour located within social and institutional contexts (Thornton and Ocasio, 1999; Omeihe, 2019; 2023). This helps to explain why the NCX would need to conduct a system-wide risk analysis, including political risks, demand risks, and logistic, legal and market risks to map out the issues and perhaps, respond timely.

Finally, there is an important point to pull out from the above suggestions. A common action going forward would imply shifting and broadening the economic base of commodities. This approach will be useful in mitigating and serving as a buffer against the potential effects of price volatility. Diversifying the economic base is important for Nigeria and other commodity-dependent developing countries. It can enhance the capability of commodity exchanges to effectively manage such risks.

Let us end with a short suggestion. Policy actions must remain stable to provide investors with the necessary confidence and reinforce the strength of formal institutions in establishing stable and robust institutional arrangements. But again, the most effective tool in this context is savings. This underlines our earlier presentation suggesting that in situations where surpluses exist, the establishment of a savings fund can serve as a robust structure for managing surpluses and reinvesting in the NCX.

Appreciation
We extend our sincere gratitude to the Commodities Branch team at UNCTAD for providing us with the opportunity to discuss the original study at the Multi-Year Expert Meeting in Geneva, Switzerland and receive valuable resource insights. Additionally, our heartfelt appreciation goes out to Nigeria's Strategic Execution Plan Committee for their invaluable resource document on repositioning the NCX.

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