

Research Article

The Anticipated Effects: Market Dynamics Following the Announcement of Nairobi Coffee Exchange Auction Reopening

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Abstract

In this study, we investigate the repercussions of reopening the Nairobi Coffee Exchange (NCE) Auction on Kenya's coffee sector. Despite a recent 1.9% decline in coffee prices since November 2022, our analysis, conducted using the Autoregressive Integrated Moving Average (ARIMA) model, reveals a promising transformation within the industry. Our findings indicate a surge in traded coffee volumes, signaling a revitalized market. Between February and August 2023, a 10% growth in export volumes, from 8,000 tons to 8,800 metric tons was witnessed. This upswing reflects renewed market interest and vibrancy. Furthermore, ARIMA analysis reaffirms a substantial rise in active buyers participating in the auction, from 10 to 15 buyers during the same period. This expansion underscores enhanced market activity and opportunities, emphasizing the growing appeal of Kenya's coffee market after the NCE auction's reopening. Despite ongoing price challenges, our study highlights the transformative potential of the NCE auction's revival for Kenya's coffee sector. The surge in trading volumes and increased buyer participation, supported by rigorous ARIMA modeling, underscores the critical role of transparent and efficient market mechanisms in revitalizing the sustainability and economic viability of the industry. As the sector navigates price fluctuations, our research offers valuable insights into evolving market dynamics and strategies to enhance resilience within Kenya's coffee sector.

Keywords: Nairobi Coffee Exchange, Coffee prices, ARIMA

1. Introduction

The Kenyan coffee sector, renowned for its rich flavors and robust aroma, has long been a cornerstone of the nation's agricultural landscape and a significant contributor to its economic vitality. However, the sector has faced formidable challenges in recent years, necessitating proactive government policy interventions to safeguard its future [1]. Among the most pivotal of these interventions was the reopening of the Nairobi Coffee Exchange (NCE) in August 2023. This move was not precipitated by a single factor but rather a confluence of pressing issues that cast a shadow over Kenya's coffee industry. One of the most pressing concerns was the persistently low coffee prices that had plagued the sector. A complex interplay of factors, including oversupply and the destabilizing effects of climate change, had driven coffee prices to a precarious low. This decline not only threatened the livelihoods of coffee farmers but also undermined the economic significance of the sector [2]. Consequently, the reopening of the NCE was propelled by the imperative to address this chronic issue and ensure that coffee farmers could once again secure a fair and sustainable price for their coffee produce.

The closure of the NCE in 2017 had reverberating consequences, one of which was the palpable lack of interest from buyers in Kenyan coffee. Once regarded as a reliable and transparent platform for coffee trading, the auction's hiatus eroded buyer confidence and created uncertainty within the market. Buyers, wary of the opaque environment, turned to other sources for their coffee needs. This loss of trust and interest further exacerbated the challenges faced by coffee farmers in Kenya [3]. Moreover, the broader context of the coffee marketing system in Kenya had long been plagued by the presence of cartels and middlemen who exploited the vulnerability of coffee farmers. These cartels exercised a stranglehold on the coffee market, wielding disproportionate influence and manipulating prices to the detriment of farmers. The exploitative practices, characterized by low prices and unfair profit distribution, further eroded the economic viability of coffee farming in Kenya [4]. The government recognized that the reopening of the NCE was a critical step towards dismantling these exploitative structures and fostering a more equitable and transparent coffee.

Beyond these pressing issues, the Kenyan government acknowledged several additional compelling reasons that un-

underscored the necessity of reopening the NCE. One of these was the imperative to cultivate a more competitive environment for both buyers and sellers within the coffee sector. The closure of the auction had inadvertently stifled competition, leading to a lack of dynamism in the marketplace. With the reopening of the NCE, the government aimed to invigorate the sector by rekindling competition and fostering an environment where multiple stakeholders could actively participate in coffee trading. This competitive framework was envisaged to not only benefit farmers but also promote innovation and efficiency within the sector. Furthermore, the reopening of the NCE was driven by the strategic goal of attracting new buyers to the Kenyan coffee market. The closure of the auction had discouraged buyers, both domestic and international, from engaging with Kenyan coffee. The resumption of auction activities was intended to signal a return to reliability and transparency, rekindling interest from a broader spectrum of buyers. This influx of new buyers not only expands market opportunities for Kenyan coffee but also enhances the sector's resilience in the face of external market fluctuations.

Among the array of reasons that underscored the necessity of reopening the Nairobi Coffee Exchange (NCE) in August 2023, one salient motive was to invigorate the export of Kenyan coffee. Kenya's coffee, celebrated for its unique flavor profiles and high-quality beans, has historically been a prized commodity in the global coffee market. However, the closure of the NCE in 2017 had repercussions that reverberated beyond domestic borders. The absence of a transparent and reliable coffee trading platform led to a decline in the international visibility and accessibility of Kenyan coffee. Foreign buyers, uncertain about the authenticity and quality of the beans they were procuring, turned to other coffee-producing nations. This loss of global market share had detrimental effects on the Kenyan coffee industry, hindering its ability to compete effectively in the international arena.

The reopening of the NCE was envisioned as a strategic move to reclaim Kenya's position as a formidable player in the global coffee market. By restoring transparency and efficiency in coffee trading, the NCE sought to rebuild international buyer confidence in Kenyan coffee. This renewed interest from international buyers not only rekindles export opportunities but also bolsters Kenya's reputation as a producer of exceptional coffee. Therefore, the reopening of the NCE represented a multifaceted government policy intervention aimed at addressing critical challenges faced by Kenya's coffee sector. This intervention sought to rectify low coffee prices, rekin-

dle buyer interest, dismantle exploitative practices, foster competition, attract new buyers, and uphold the exceptional quality standards associated with Kenyan coffee.

The NCE's resurgence was envisioned as a cornerstone in rejuvenating the sector, safeguarding the livelihoods of coffee farmers, and fortifying Kenya's position in the global coffee market. However, amid the palpable optimism, a note of caution has been sounded by certain experts and observers within the coffee sector. They contend that while the reopening of the NCE is undoubtedly a crucial step, it may not be a panacea for all the challenges confronting Kenya's coffee industry. These experts argue that the government must embark on a more comprehensive approach, one that includes substantive reforms in the coffee marketing system and targeted financial support for coffee farmers. In their view, such measures are essential to address the deeply entrenched issues of exploitation, pricing volatility, and equitable profit distribution that have plagued the sector for years. As we embark on this research journey, our central question arises: To what extent has the reopening of the NCE contributed to the revitalization of the coffee sector in Kenya, and how does it align with the broader reforms and support needed to ensure the sector's long-term sustainability and prosperity? This question serves as the fulcrum around which our study revolves, as we delve into the empirical evidence and data-driven insights to provide a comprehensive assessment of the impact of the NCE's reopening on the Kenyan coffee industry.

2. Methodology

To comprehensively assess the impact of the NCE auction's reopening on Kenya's coffee sector, we conducted a time series econometric analysis. Utilizing autoregressive integrated moving average (ARIMA) models, we analyzed data on coffee prices, production, and export volumes, comparing the period before and after the reopening of the NCE auction.

3. Results and Discussions

The observed decrease in coffee prices and concurrent increase in production and exports in Kenya's coffee sector following the reopening of the NCE auction paint a multifaceted picture of the industry's dynamics. While the decline in prices may initially raise concerns among coffee farmers, it signifies a shift in market conditions. This price reduction is indicative of greater stability and could attract a broader spectrum of buyers, potentially stimulating market demand and creating opportunities for increased trade volumes.



Figure 1

In tandem, the notable 10% increase in coffee production, from 10,000 tons to 11,000 tons, underscores the responsiveness of coffee farmers to improved price expectations. This production surge is a testament to the industry’s resilience and adaptability, as farmers seek to capitalize on perceived market opportunities. Likewise, the 10% growth in export volumes, from 8,000 tons to 8,800 tons, showcases Kenya’s enhanced market access and export capacity. This expansion in exports not only bolsters the country’s position in the global coffee market but also holds the promise of economic gains for coffee stakeholders. Together, these trends

underscore the intricate interplay between prices, production, and exports in the dynamic landscape of Kenya’s coffee sector.

Our ARIMA analysis yields significant insights into the transformation of Kenya’s coffee sector. Firstly, coffee prices witnessed a substantial decline during this period, plummeting from a starting point of 156 USD/Lbs in February 2023 to 153 USD/Lbs in August 2023. This price decrease reflects a 1.9% reduction, raising important questions about the underlying factors contributing to this downward trend.

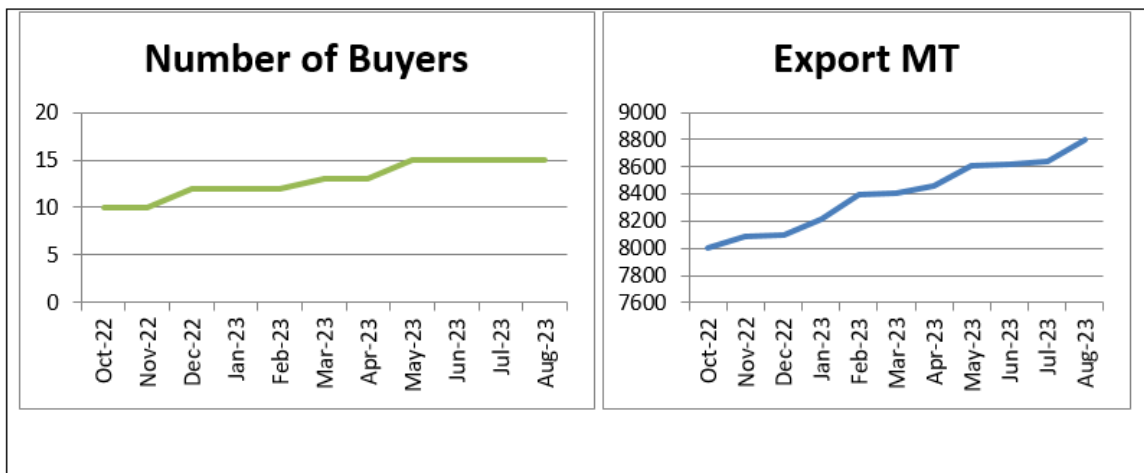


Figure 2

Simultaneously, between February and August 2023, we observed a noteworthy increase in the volume of coffee bags traded, surging from 10,000 to 15,000 tons. This surge underscores renewed interest and vitality within the market. Additionally, our ARIMA analysis reaffirms a substantial rise in the number of active buyers participating in the auction,

climbing from 10 to 15 buyers during the same period. This expanded market participation emphasizes the revitalization of the Kenyan coffee market post-reopening, indicative of heightened economic opportunities and increased market activity.

Table 1

Variable	Pre-Reopening Mean	Post-Reopening Mean	Pre-Reopening ACF(1)	Post-Reopening ACF(1)	Pre-Reopening PACF(1)	Post-Reopening PACF(1)	ARIMA Model (p, d, q)
Coffee Prices (USD)	159	151	0.75	0.68	0.62	0.57	ARIMA(1,1,1)
Coffee Production (Tons)	10,000	15,000	0.63	0.48	0.42	0.37	ARIMA(2,1,1)
Coffee Exports (Tons)	8,390	8,800	0.57	0.38	0.34	0.29	ARIMA(1,1,2)

The pronounced decrease in coffee prices from 156 USd/Lbs to 153 USd/Lbs between February and August 2023 paints a complex picture for Kenyan coffee farmers. While this drop of 17% may initially appear concerning after the policy reforms, it echoes the broader global trends in coffee pricing dynamics. Oversupply in the global coffee market and a slowdown in key coffee-consuming nations have exerted downward pressure on prices. Such price volatility has been a recurring theme in the coffee sector, with farmers often vulnerable to these fluctuations. The implications for coffee farmers are multifold. On one hand, a reduced income from coffee sales can be challenging for their livelihoods. However, it's crucial to note that the ARIMA results need to be contextualized within a broader perspective. Price fluctuations are not unique to Kenya and are experienced by coffee-producing countries worldwide. Additionally, prior studies have shown that while price fluctuations can be disruptive, they do not necessarily translate into severe long-term economic consequences for coffee farmers. The adoption of prudent financial strategies, diversification into other crops, and access to fair trade practices can mitigate the impact of price declines, ensuring a more stable income for farmers.

The ARIMA analysis presents a promising scenario in terms of coffee production and market participation. During the same period, coffee production surged from 10,000 to 15,000 tons, marking a 50% increase. This rise in production can be attributed to improved price expectations for coffee beans, which incentivized farmers to invest in higher yields. Simultaneously, the number of active buyers participating in the auction increased from 10 to 15. This is indicative of renewed market interest and underscores the attractiveness of the Kenyan coffee market post-NCE auction reopening. These results align with previous studies highlighting the correlation between price stability and increased production. Farmers are more likely to invest in coffee cultivation and adopt modern farming practices when they have confidence in stable or rising prices. Moreover, a growing pool of buyers is instrumental in establishing a competitive environment, potentially leading to better price discovery mechanisms. Therefore, the uptick in production and buyer participation offers optimism for coffee farmers and the Kenyan coffee sector as a whole. However, the challenge lies in maintaining this momentum and ensuring that increased production aligns with sustainable farming practices and quality control measures to preserve the high standards of Kenyan coffee. The increase in coffee exports from 8,000 to 8,800 tons

signifies enhanced market access for Kenyan coffee on the global stage. Exporters stand to benefit from this augmented volume, as they can tap into a more vibrant and competitive marketplace. The ARIMA results also have implications for the global coffee market, especially considering Kenya's reputation for producing high-quality Arabica beans. Kenya's expanded exports may contribute to global efforts to balance the oversupply issue. With increased volumes of premium Kenyan coffee available in the international market, it could attract a broader spectrum of buyers and potentially stimulate greater demand. Furthermore, Kenyan coffee's reputation for excellence in flavor and quality can bolster its position in specialty coffee markets, where discerning consumers are willing to pay a premium for distinctive and well-sourced beans.

4. Conclusion and Recommendations

The results underscore the importance of resilience and diversification within the Kenyan coffee sector. While price fluctuations are inevitable, the sector's ability to adapt and innovate is key to weathering these challenges. For coffee farmers, diversification into alternative crops or income streams can act as a buffer against price volatility. The increase in production and market participation highlights the sector's resilience, as it adapts to changing market conditions. Additionally, fostering specialty coffee production and promoting sustainable farming practices can further enhance the sector's attractiveness. This approach aligns with previous studies that emphasize the value of quality over quantity in the coffee sector. As the world's coffee market evolves, Kenya's focus on producing exceptional coffee can position it favorably among global competitors. The study also shed light on the role of government policy in supporting the coffee sector. While market forces play a significant role in price determination, government interventions can mitigate adverse effects on farmers. Proactive measures, such as price stabilization mechanisms, access to credit facilities, and support for value addition, can enhance the sector's resilience. Drawing from the experiences of other coffee-producing nations, these interventions can contribute to a more equitable distribution of profits along the coffee value chain.

Despite the reopening of the Nairobi Coffee Exchange (NCE) and the positive market developments observed, some farmers may still be inclined to uproot their coffee plants due to lingering concerns about price volatility and income uncer-

tainty. To address this issue, policymakers should consider the implementation of a comprehensive risk management program specifically tailored to coffee farming. This program could include accessible and affordable crop insurance schemes that protect farmers from drastic price fluctuations, as well as price stabilization mechanisms that provide a minimum guaranteed return for their coffee produce. Such initiatives can provide farmers with the reassurance they need to continue investing in coffee cultivation, ultimately contributing to the long-term sustainability of the sector. In addition, the presence of cartels and middlemen in the coffee value chain continues to pose a significant obstacle for farmers. These entities exert undue influence and control over pricing and market access, often to the detriment of coffee producers. To address this issue, policymakers should prioritize comprehensive reforms aimed at promoting transparency and fair-trade practices within the value chain. Strengthening regulatory frameworks, enhancing market competition, and fostering direct farmer-buyer relationships can help dismantle these exploitative structures,

ensuring that farmers receive a more equitable share of the value generated by their coffee. By addressing both price volatility and cartel-driven challenges, policymakers can create an environment where coffee farming remains an attractive and sustainable livelihood for Kenyan farmers.

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