



Full Length Research Paper

Ethiopian Coffee Export Performance and Diversification Analysis

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Abstract

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This article investigates the performance trends and diversification strategies within the Ethiopian coffee export sector. Ethiopia, renowned for its high-quality coffee beans, has long been a significant player in the global coffee market. However, the sector faces various challenges, including market volatility, quality control issues, and limited value addition. This study aims to provide a comprehensive analysis of the performance dynamics and diversification initiatives in Ethiopian coffee export, shedding light on opportunities for sustainable growth and competitiveness. Drawing upon a range of data sources and analytical methods, the article examines trends in coffee production, export volumes, prices, and market dynamics. It also explores diversification strategies adopted by stakeholders along the coffee value chain, including efforts to enhance quality, expand market reach, and promote value addition. The study found that while the value and volume of coffee exports has shown mixed trends, generally increasing with occasional setbacks, challenges persist within the sector, including climate change, pests, diseases, mismanagement of export finance and production technology. While opportunities exist for vertical diversification through roasting and decaffeinating, challenges persist, including market instability and barriers to market entry. Proactive efforts to explore new markets and address challenges through improved marketing strategies, value addition, and capacity building can further enhance Ethiopia's position as a leading player in the global coffee trade.



1. Introduction

Ethiopia is renowned for its coffee production and is one of the largest coffee exporters in Africa. Coffee has a long history in Ethiopia, and the country is often considered the birthplace of coffee. Ethiopian coffee exports are primarily composed of high-quality Arabica coffee beans and holds a revered status in the global coffee industry, celebrated for its distinct flavors, rich history, and cultural significance. The country's diverse agroecological zones and traditional farming practices contribute to the unique qualities of its coffee beans, attracting consumers and connoisseurs worldwide. The coffee is grown in various regions across the country, including Sidama, Yirgacheffe, Harrar, and Limu, each known for producing distinct flavor profiles (Al-emayehu et al., 2018). However, over the years, Ethiopian coffee production has experienced fluctuation influenced by global market dynamics, including demand trends, price fluctuations, and competition from other coffee-producing countries (Arega et al., 2020; Tafesse et al., 2019).

The Ethiopian government plays a significant role in the coffee industry through the Ethiopian Coffee and Tea Authority (ECTA). ECTA oversees the marketing, quality control, and exportation of coffee from Ethiopia. It also ensures that coffee farmers receive fair prices for their produce. To maintain the quality and reputation of Ethiopian coffee, the government has implemented strict regulations. For instance, coffee exports must meet specific grading standards,

such as size, moisture content, and defect levels. Additionally, Ethiopia has established geographical indications (GI) for certain coffee regions, protecting their names and ensuring consumers can identify authentic Ethiopian coffee.

While Ethiopia faces challenges such as climate change, aging coffee trees, and infrastructural limitations, there are also opportunities for innovation, value addition, and market diversification to enhance the competitiveness of its coffee sector (Tafesse et al., 2019).

Despite its prominence, the Ethiopian coffee export sector faces various challenges, including price volatility, supply chain inefficiencies, and limited value addition, climate change, aging coffee trees, and infrastructural limitations, there are also opportunities for innovation, value addition, and market diversification to enhance the competitiveness of its coffee sector (Tafesse et al., 2019). This article aims to delve into the performance trends and diversification initiatives within the Ethiopian coffee export sector, offering valuable insights for policymakers, researchers, and industry practitioners.

2. Material and Methods

Both qualitative and quantitative analytical tools have been used for data analysis. Content analysis was used to analyze qualitative data collected using key informant interviews, focus group discussions, and observations. Descriptive statistics such as averages, ratios and percentages

are also employed with the aid of graphs and tables. Accordingly, explanatory and descriptive methods of data analysis are applied. Apart from this, HHI are applied to assess coffee export diversification.

To measure export destination diversification, the study uses the Herfindahl-Hirschman index (HHI), which is a concentration index that can be easily implemented and adapted for different types of export diversification. HHI assigns more weight to products with larger shares by squaring shares before adding them up. The HHI is used as an inverse measure of Ethiopia's export diversification in this study. It can be expressed as follows:

$$HHI = \sum_{i=1}^N \left(\frac{x_i}{X}\right)^2$$

In case of destination diversification, where x_i is the value of export destination of individual country i ; X is the country's total nominal export value; and N is the total number of destination countries.

The HHI ranges from near zero (indicating perfect diversification) to 1 (representing perfect concentration of exports in a single product). Lower values of HHI indicate a more diversified set of products, while higher values suggest a less diversified export portfolio. In this study,

specific thresholds are used to categorize the level of export diversification based on U.S. Federal Trade Commission and the U.S. Department of Justice (August 2010) to differentiate between diversified, moderately concentrated and highly concentrated exports or markets. $HHI < 0.15$ for diversified exports, $0.15 \leq HHI < 0.25$ for moderately diversified exports, and $HHI \geq 0.25$ for less diversified exports. Focus ground discussion and interviews was also conducted with officials and export associations to substantiate the quantitative findings.

3. Result and Discussion

3.1. Performance of Coffee

The trend for coffee in the Ethiopian merchandise export portfolio shows that it is the top exported commodity and an important source of foreign exchange earnings for Ethiopia. The export value of coffee has been fluctuating over the years but has steadily increased, indicating a growing demand for Ethiopian coffee in the global market.

Starting at 830.2 million USD in 2010/11, the export value of coffee has increased to reach a peak of 1424.6 million USD in 2021/22, representing average growth rate of 6.3% over the past decade. Mostly coffee experienced negative growth rates until 2017/18 when it began to increase. The highest growth rate of 57.1% was recorded in 2021/22 due to increase international prices.

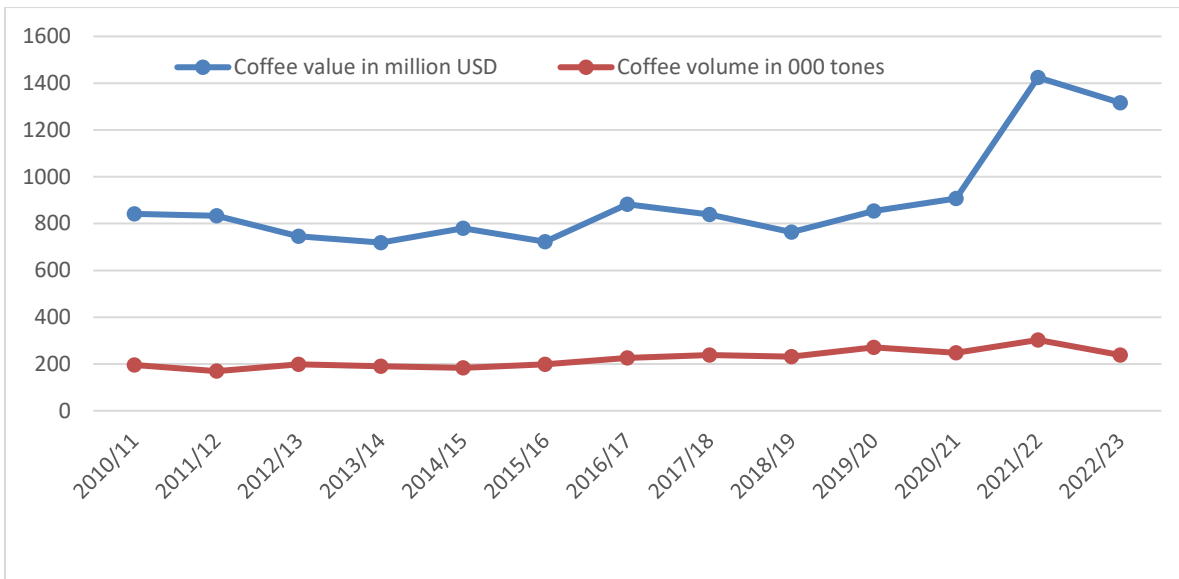


Figure 1: Value (millions of USD) and volume (000 of tones) of Coffee export (2010/11-2022/23)

Source: Author's calculation)

Coffee exports show a mixed trend in terms of volume, with some years recording positive growth rates while others showing negative growth rates. For example, between 2012/13 and 2013/14, coffee exports had a positive growth rate of 17.5% and 4.1%, respectively. However, the growth rate declined in the following years until 2016/17 when it increased by 13.6%. Although the growth rate has been mostly positive since then, there was a significant decline of 8.3% in 2020/21. This indicates that although coffee is one of Ethiopia's major exports, there are still challenges in this sector that need to be addressed. Overall, the trend of coffee export volumes appears to be generally increasing, with some minor setbacks in a few years, over all representing an average growth of 4.6%.

One possible explanation for recently steady growth in coffee exports is the high quality of Ethiopian coffee, which is known for its distinctive flavour profile and is highly sought after by

coffee connoisseurs. Additionally, the Ethiopian government has implemented policies and initiatives to support coffee production and export, such as the Coffee Quality Improvement Program (CQIP) and favorable world prices.

According to a questionnaire survey conducted with coffee exporters, the Ethiopian coffee sector is confronted with several challenges in relation to production, investment, and trade facilitation. The production aspect is particularly affected by climate change, pests, diseases, limited access to finance, and inadequate technology. Exporters also emphasize issues concerning investment in coffee production, such as unstable political or social conditions, ineffective policy management by the local government, and complex administrative procedures for obtaining permits. Moreover, time-consuming customs procedures and an unclear inspection system further exacerbate these difficulties. It is important to note that these obstacles have the potential to impact the future

of coffee production and export. Nevertheless, despite these challenges, coffee continues to be a valuable and competitive commodity for Ethiopia's economy.

The coffee sector has experienced significant volatility in its unit prices, fluctuating between large positive and negative changes, reaching a peak in 2011 and a low point in 2018/19. However, recent data suggests that it is recuperating somewhat and displaying an overall marginal increase in its unit price trend since 2011/12. The changes in prices indicate that the global market for Arabica coffee is influenced by various factors such as supply and demand, weather conditions, production levels, and economic factors. These factors can cause prices to rise or fall over time.

The comparison between the Arabica world price and the Ethiopian price reveals some interesting trends. In most years, the Ethiopian export price tends to be higher than the world price, indicating unique market conditions or factors specific to Ethiopia such as coffee quality and branding. Both the Arabica world price and the Ethiopian price of coffee undergo fluctuations on an annual

basis. However, the Arabica world price tends to exhibit more significant volatility compared to the relatively stable Ethiopian price. The stability observed in the Ethiopian price can be attributed to various factors such as local production and domestic regulations. For instance, the Ethiopian government implements measures like setting a floor export price and prohibiting the export of high-quality coffee for domestic consumption. These regulations may provide some level of protection against global market forces, thereby contributing to the stability of the Ethiopian price.

It is important to note that the Ethiopian price is influenced by the world price of Arabica coffee as a general trend. When the world price of Arabica coffee increases, the Ethiopian price tends to follow suit and increase as well. Conversely, when the world price experiences a decline, the Ethiopian price also tends to decrease. This relationship highlights the interconnectedness of the global coffee market and emphasizes how changes in the world price can affect Ethiopian prices.

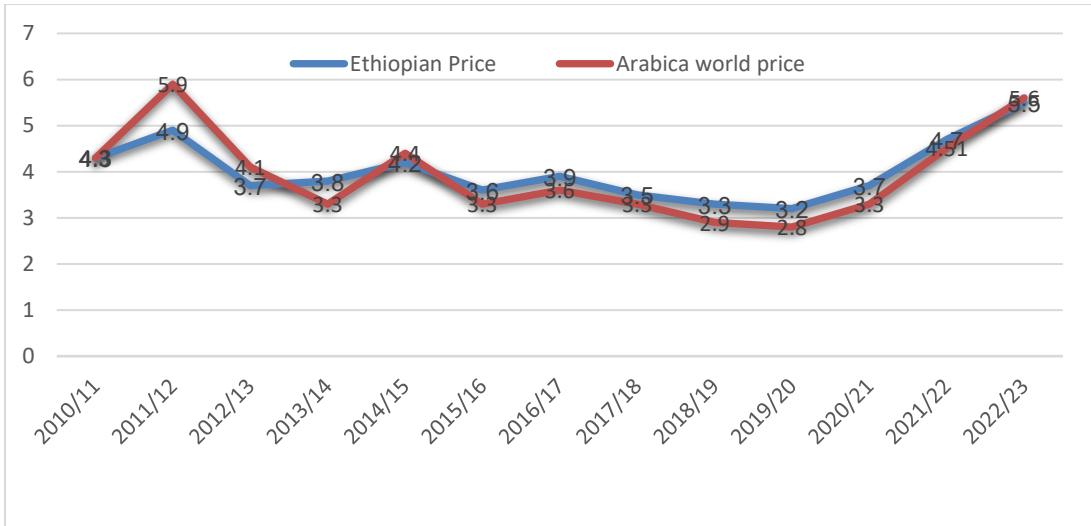


Figure 2: Unit price of coffee per kg in USD (2010/11-2022/23) Source: Author’s calculation)

Coffee is also considered a strategic commodity for the country, as it is the largest export commodity and a significant source of foreign exchange earnings. The share of coffee exports to total merchandize export has shown some fluctuations but overall has maintained a significant share of total exports. The share of coffee exports ranged from 22.0% to 35.5% during the analysed period. Notably, there was a significant increase

in the share in 2022/23, reaching 40.6%. The average share of coffee exports is approximately 29.4%. The consistent and increasing share of coffee in Ethiopian exports indicates its strong position in the international market. It suggests that Ethiopia has a competitive advantage in coffee production and trade, which contributes significantly to the country's export earnings.

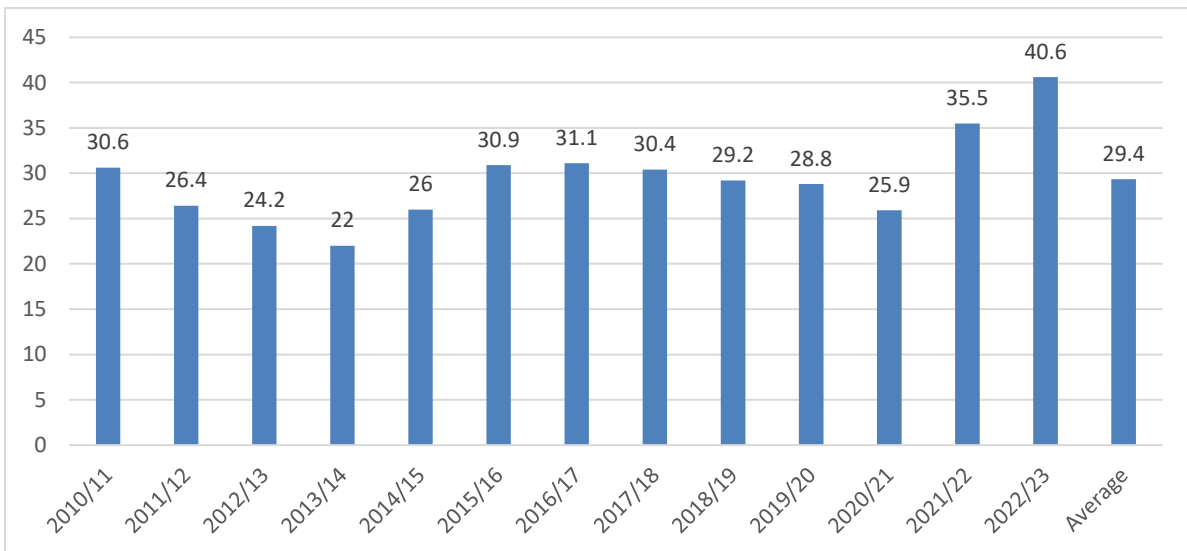


Figure 3: Coffee share to total merchandize export (2010/11 – 2022/23) (Source: Author’s calculation)

Market Diversification

Efforts are underway to diversify export destinations beyond traditional markets like Europe and the United States, with a focus on emerging markets in Asia, particularly China and South Korea, to reduce dependency on specific regions (Abebe et al., 2017).

For coffee exports, the HHI values range from 0.091 to 0.152 over the twelve-year period. This suggests a relatively low level of concentration, indicating that coffee exports are spread out across destinations and hence well diversified. However, there is a slight increase in concentration towards the end of the period. As shown in Figure 53, there is no high concentration of coffee in terms of destination. Germany is relatively the largest destination for Ethiopia's coffee exports, accounting for 19.8% of the total. Saudi Arabia, average

Arabia is the second-largest destination, with a share of 14.9%. This indicates a significant demand for Ethiopian coffee in the Middle Eastern market, specifically in Saudi Arabia. The United States accounts for 10.7% of Ethiopia's coffee exports. Japan and Belgium hold about 8% each as destinations for Ethiopian coffee exports. Korea, Italy, and France each account for about 4% of Ethiopia's coffee exports. Sudan accounts for 2.8% of Ethiopia's coffee exports. This suggests that Ethiopian coffee is also consumed within the African region. The category "others" represents a combined share of 19.4%. The "others" category represents a notable share, indicating that Ethiopian coffee has the potential to expand into new markets and reach even more consumers globally.

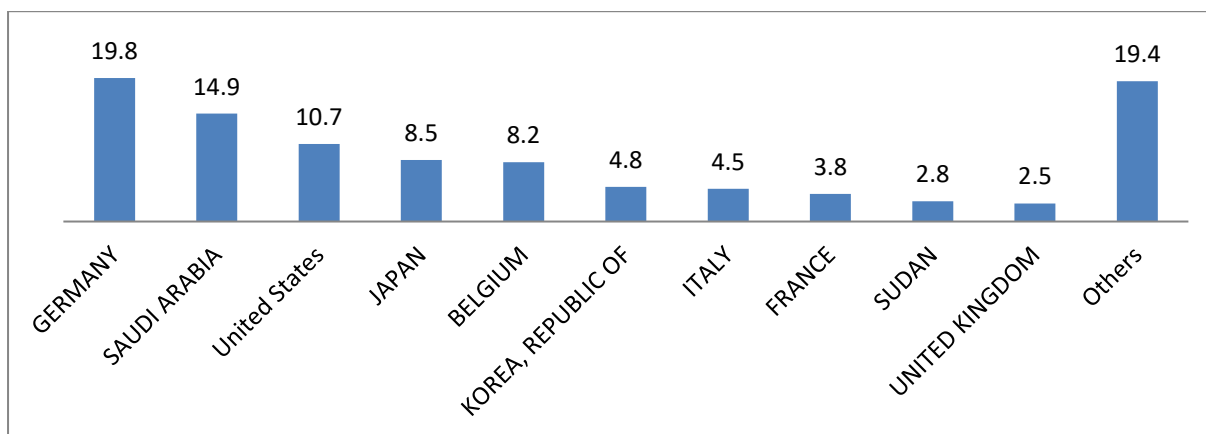


Figure 4: Major destination of Coffee (2010/11-2022/23) Source: Author's calculation based on ECC (2010/11 – 2022/23)

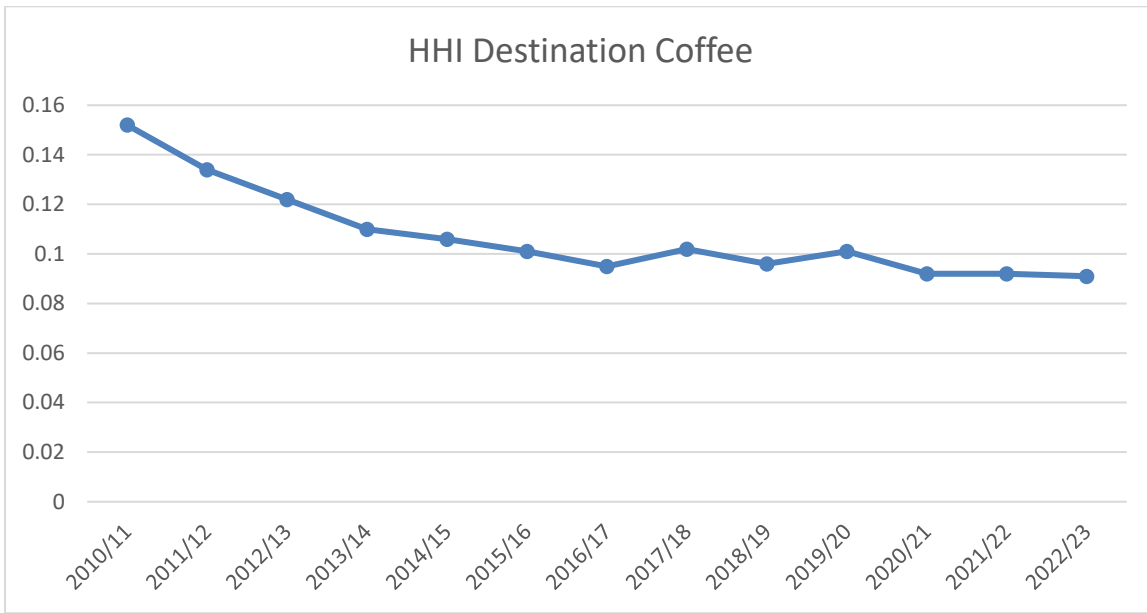


Figure 5: HHI Destination for Coffee (2010/11-2022/23) Source: Author’s calculation based on ECC (2010/11 – 2022/23)

Product Diversification

Ethiopian coffee exports have historically been dominated by traditional Arabica varieties, particularly from regions like Sidama, Harrar, and Yirgacheffe (Abebe et al., 2017). There is a growing emphasis on value addition and processing within Ethiopia, with initiatives to promote specialty coffee production, such as organic and Fair-Trade certification, to diversify export offerings and capture premium market segments (Teshome et al., 2020).

When examining the effort of the vertical diversification of coffee (value addition), specifically the process of roasting and decaffeinating, and the data reveals that there have been fluctuations in the value and volume of production in Ethiopia over the years. The highest values and volumes were recorded in 2012 and 2019, while the lowest values and volumes were observed in 2017. It suggests that there may be challenges or factors influencing the consistency of this vertical diversification effort. The highs and lows recorded over the years indicate a certain degree of instability in the market for processed coffee.

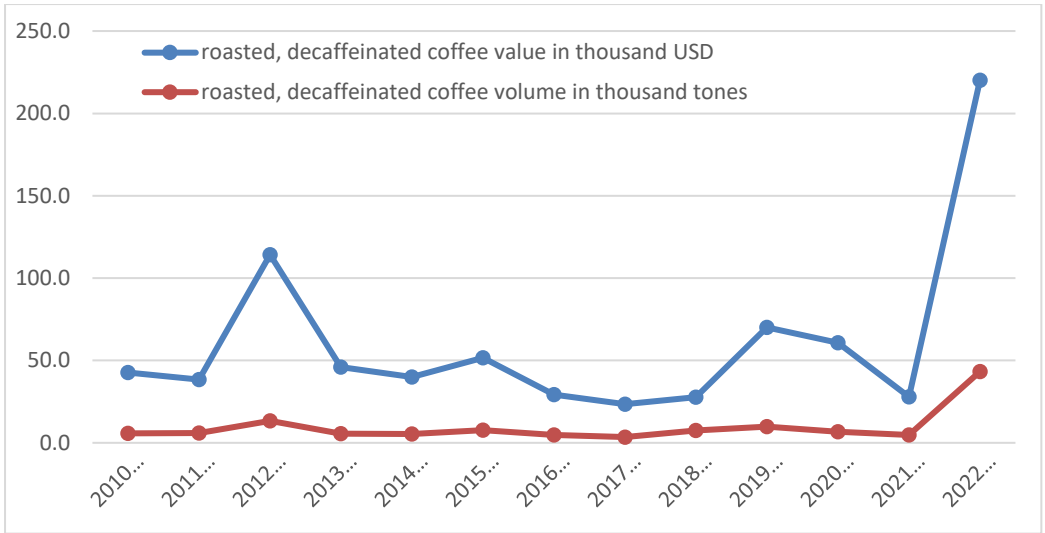


Figure 6: Coffee roasted and decaffeinated in value and volume (2010-2023) Source: Author’s Computation based on MoTRI (2010/11-2022/23)

It is notable that the proportion of processed coffee to the overall coffee export is relatively insignificant. The negligible share of processed coffee in overall coffee exports implies that it has not

yet gained significant traction or demand in international markets. This suggests that there may be limitations or barriers hindering the growth and marketability of roasted, decaffeinated coffee from Ethiopia.

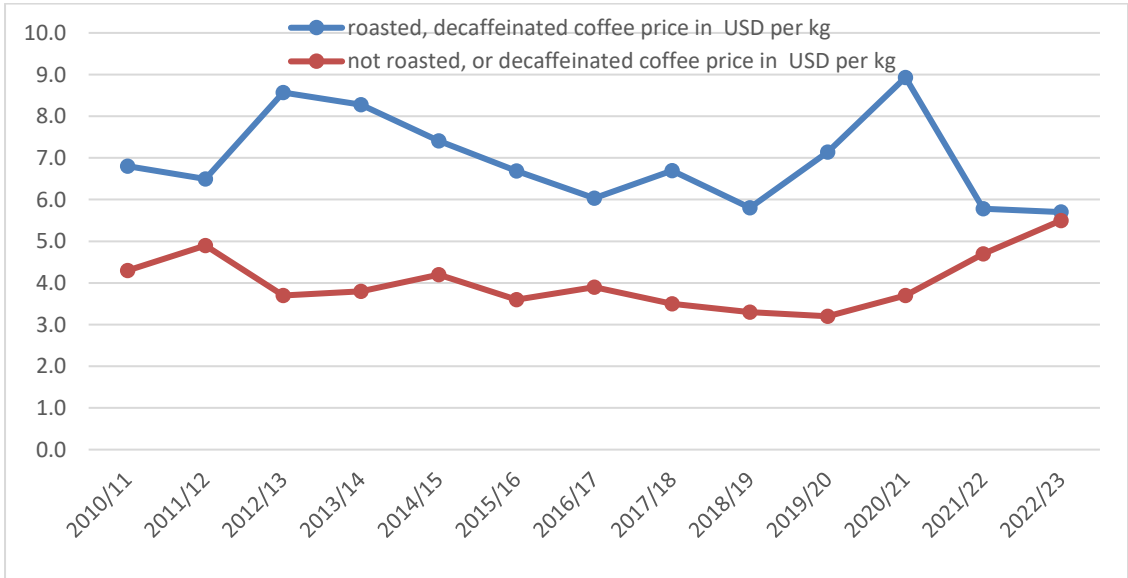


Figure 7: Coffee roasted, decaffeinated Vs. coffee, not processed (2010/11-2022/23)

Source: Author’s Computation based on MoTRI (2010/11-2022/23)

In terms of prices, both processed (roasted and

decaffeinated) and non-processed coffee prices demonstrate fluctuations and variations throughout the study period. On average, the price of processed coffee is approximately three USD higher than that of non-processed coffee. This

suggests that there is a perceived value or premium associated with the additional processing and preparation involved in producing roasted, decaffeinated coffee. This price difference may indicate that there is a market segment willing to pay more for processed coffee due to factors such as taste, convenience, or perceived quality and additional processing time.

Overall, these findings suggest that while there are opportunities in the vertical diversification of coffee in Ethiopia through roasting and decaffeinating, there may also be challenges and a need to address factors that affect the stability, market share, and growth of this segment.

Opportunities and Challenge of Ethiopian Coffee export

Ethiopia is known as the "birthplace of coffee" and is believed to be the center of origin and diversity for Arabica coffee. Ethiopian coffee is highly valued for its exceptional quality and unique flavor profiles resulting from specific growing regions and processing methods. The different agro-ecology and climatic conditions offer the country diverse Arabica coffees. In fact, very few places in the world can match the ideal growing conditions that exist in Ethiopia: a combination of the right temperatures and rainfall patterns, as well as the very specific altitudes necessary for Arabica coffee to thrive between 1,200 and 2,000 meters above sea level (Mechal, 2013). What is more, Ethiopia has high potential

and prospects for sustained expansion for producing quality coffee types of world standard due to the availability of adequate and suitable agricultural land and labour with favourable temperatures and water supplies.

In the coffee trade, above all, the supply of best-quality coffee seeds in favour of consumers' preferences and demand is the most vital aspect. In this regard, Ethiopia is gifted in the sense that the country is endowed with a diversity of quality coffee types, such as Harrarghe, Yirgacheffe, Gmbi, Limu, and others, which fetch premium prices in the world market. This offers the country a well-established brand and a positive image in the world coffee trade. While Ethiopia does not currently produce the volume necessary to compete with the powerhouses of Brazil and Colombia (which together account for nearly 40 percent of global Arabica coffee production), Ethiopia has a distinct advantage when it comes to producing the finest coffee for the specialty market. Hence, Ethiopia has a competitive advantage in quality in the international coffee trade.

Another significant factor that can make Ethiopian coffee competent in the international market is the changing preferences of international consumers and global market trends. Specialty coffee, which refers to coffee grown in ideal climates and processed with care to reveal distinct and unique flavours, has been gaining popularity across the globe. Ethiopian coffee, known for its

distinct flavour profiles such as fruity, floral, and earthy notes, is well-positioned to cater to this niche market.

In the same argument, the changing preferences of international consumers make Ethiopian coffee preferable. With a growing awareness of ethical and environmentally sustainable practices in coffee production, consumers are increasingly looking for brands that prioritize social and environmental responsibilities. By adhering to strict quality and certification standards, Ethiopian coffee can continue to be an attractive choice for conscious consumers. The quality and standards of Ethiopian coffee are vital to maintaining its position as a premium product in the global market. By implementing strict quality control measures, adhering to certification and compliance standards, and adapting to evolving consumer preferences and market trends, Ethiopian coffee can continue to thrive and grow as a valued and sought-after commodity.

In terms of market share, Ethiopia is the fifth-biggest coffee exporter in the world, selling to markets on all continents. In the last decade, the most noticeable change in the direction of Ethiopia's coffee exports has been the declining importance of the USA and the rising importance of Japan, Germany, and Saudi Arabia. The country lost its shares in the USA's, Finland's, and Italian coffee markets and improved its shares in the Japanese and Saudi Arabian markets. In all markets, the washed (higher quality) coffee export

increased with the exception of Germany (the far leading buyer of washed coffee).

While Ethiopia has traditionally focused on exporting coffee to Europe and the United States, there are numerous opportunities available in emerging markets like Asia, the Middle East, and Africa. Proactively exploring these new market opportunities can help Ethiopian coffee exporters diversify their portfolio and mitigate the risks associated with overdependence on a limited number of markets. To tap into these new markets, the Ethiopian government can support these efforts by negotiating trade agreements and promoting Ethiopian coffee through diplomatic engagements and trade missions. Furthermore, by focusing on quality and differentiation, Ethiopian coffee producers can capture a higher market share in the specialty coffee industry.

The data gathered through questioners as well as discussions with key informants and FGD reveal that, though Ethiopia has high potential and opportunities to lead the world coffee market, there are some challenges that need to be addressed. First, coffee exporting companies have very limited marketing knowledge and information about the international coffee market and destinations. This is partially due to the inadequate commitment and effort of the respective company management. Second, most coffee exporting companies lack an appropriate and working marketing strategy. In this regard, companies' commitment to identifying potential buyers and distributors

overseas is a challenging task that is not yet given due attention by companies or exporters. For all these to happen, of course, acquiring trained human capital is a must. Consequently, most companies are affected due to the inefficiency of the institutions promoting exports.

By the same token, value addition is given little attention by both the government and exporters. The main reason for this, per the exporters and respective government offices, is the fear of competition from the importing countries. According to the key informant, who is a higher official from the Coffee and Tea Authority, "the importing countries are good at value-added coffee production." They have huge experience and advanced technologies. Therefore, it is rather less likely to compete and earn from the value-added coffee. Hence, market entry and production capacities in value-added varieties, like roasted or decaffeinated coffee, are major challenges.

The seasonality of Ethiopian coffee production is also considered a challenge to coffee export performance. As for most agricultural crops, the production, processing, and marketing of coffee are characterized by important seasonal patterns, which adversely affect coffee export performance.

Like other export sectors, coffee exporting companies also face a scarcity of foreign currency. With the economy struggling to earn sufficient foreign exchange to finance imports of goods

and services from abroad, the scarcity has led importers to resort to unconventional means to facilitate their trade. Furthermore, there is a lack of fair and free competition between exporters at the local market or at the ECX market and unnecessary price competition by being price competitive even below breakeven.

4. Conclusion

Ethiopian coffee stands as a symbol of the country's rich cultural heritage and economic significance on the global stage. With its diverse agroecological zones and traditional farming practices, Ethiopia produces some of the finest Arabica coffee beans, revered for their distinct flavors and unique profiles. Over the years, the Ethiopian coffee export sector has faced various challenges, including price volatility, supply chain inefficiencies, and limited value addition. However, amidst these challenges, there exist opportunities for innovation, market diversification, and value addition that could enhance the competitiveness of Ethiopia's coffee sector.

The analysis of coffee export performance reveals a positive trajectory, with steady growth in export value and efforts to diversify export destinations beyond traditional markets. While the sector has shown resilience, particularly in the

face of global market dynamics, there remain areas for improvement. Enhancing market diversification and vertical integration through value addition could further strengthen Ethiopia's position in the global coffee trade.

The findings underscore the importance of strategic interventions and policy support to address the challenges facing the coffee sector. Measures such as improving market information systems, investing in transportation infrastructure, and promoting value-added processing can help unlock the full potential of Ethiopia's coffee industry. Moreover, fostering partnerships between government agencies, industry stakeholders, and international partners is crucial for driving sustainable growth and competitiveness in the coffee sector.

Looking ahead, Ethiopia has the opportunity to leverage its competitive advantage in coffee production and capitalize on emerging market trends to solidify its position as a leading player in the global coffee trade. By addressing the identified challenges and seizing available opportunities, Ethiopia can continue to build on its legacy as the birthplace of coffee and contribute to the development of a vibrant and sustainable coffee industry that benefits producers, traders, and consumers alike. The success of the Ethiopian coffee export sector hinges on collaboration, innovation, and a steadfast commitment to quality and sustainability.

Conflict of Interests

The authors declare that they have no conflicts of interest

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