Export Restrictions in the Shea Sector: Economic Impacts, Market Dynamics, and Policy Lessons for West Africa

1. Executive Summary

Since late 2024, several West African governments have increasingly intervened in the shea trade. Within a year, Benin, Burkina Faso, Côte d'Ivoire, Mali, Nigeria and Togo introduced export bans, licensing requirements, and export levies on shea kernels.[1] These policies mark a departure from the region's traditionally open shea kernel market and a shift toward national industrial policies. Their objective is to promote greater local value addition and manufacturing by reserving a larger share of shea kernels for domestic industrial processors producing shea butter and related derivatives.

These policies have implications not only for trade and industrial development, but also for the broader network of value chains and rural livelihoods that depend on shea kernels. West Africa supplies more than 90 percent of the world's shea kernels, making the region a critical supplier of shea related products to the global food, cosmetics, and specialty fat industries. In addition, shea kernel production provides essential seasonal income for millions of rural households, especially for women in Sub-Saharan Africa. Export restrictions therefore affect not only the integration of regional markets, but also the organization of global and regional value chains, rural incomes, and the economic security of women.

This white paper examines the economic consequences of these policies from several angles. Drawing on trade theory, market structure analysis, price evidence, and cross-country comparisons, it evaluates the short-term effects of these policies and considers whether the resulting market outcomes are consistent with their stated long-run ambitions.

The analysis points to four broad conclusions.

First, the observed price patterns are consistent with standard trade theory: restricting access to international markets increases the domestic supply of shea kernels available as raw materials for domestic processors and lowers farm-gate prices (Anderson and Martin, 2009; Bouët and Laborde, 2012).

Second, these lower domestic prices redistribute rents within the value chain by shifting income away from upstream shea producers toward domestic industrial processors. Cheaper domestic supplies improve access to shea kernels for processors, while the burden falls largely on rural kernel producers, most of them women, through lower farm-gate prices.

Third, industrial upgrading is possible but is not a forgone conclusion. It depends on investment, rapid expansion of processing capacity, credible policy commitments, and complementary investments in infrastructure, quality and logistics.

[1] This paper uses the terms "shea nuts" and "shea kernels" interchangeably. In practice, policy documents and trade reports often use the two terms interchangeably to refer to the raw shea commodity exported for industrial processing. The export restrictions examined in this paper similarly applied to exports of both shea nuts and kernels.

Fourth, without these supporting conditions, export restrictions risk creating persistent distortions, including excess domestic supplies of shea kernels, increased informal trade, and lower rural incomes.

Overall, export restrictions are a blunt instrument. They can support industrialization only as part of a broader strategy that promotes investment, productivity growth, and credible policy.

Several policy priorities follow from this analysis.

First, stronger regional coordination is essential. Given the highly integrated nature of shea markets, unilateral export restrictions can lead to trade diversion and informal cross-border flows. Coordination under regional frameworks such as the Economic Community of West African States ("ECOWAS") or the African Continental Free Trade Area ("AfCFTA") would help reduce market fragmentation and improve policy effectiveness.

Second, there is a need to pursue industrial policy cooperation at the regional level. Rather than competing for limited processing capacity, countries could benefit from coordinated strategies that align investment, infrastructure development, and market access across the region.

Third, policymakers should give producers, traders, and processors time to adapt to new rules. Abrupt policy changes can disrupt supply chains, create uncertainty, and discourage the very investment such policies are intended to promote. A gradual and predictable transition is critical to allow market participants to adjust and reduces the risk of unnecessary disruption.

Finally, excessive or poorly coordinated restrictions may cause long-term damage to the shea industry by undermining buyer confidence, encouraging substitution into alternative oils and fats, and weakening West Africa's position in global markets. Over time, such shifts may prove difficult to reverse, with lasting consequences for export earnings, investment, and rural incomes.

In sum, the evidence suggests that export restrictions alone are unlikely to generate sustainable industrial development. Without complementary investment, expansion of domestic processing capacity, and stronger regional coordination, such policies risk functioning primarily as mechanisms that slow domestic price growth, redistribute rents within the value chain, and generate persistent distortions across integrated regional markets.

2. Introduction: The Strategic Importance of Shea in West Africa

2.1 Global Market Structure

(a) Geographic Concentration and Local Fragmentation of Supply

With more than 90 percent of the world's shea kernels produced in the Sudano-Sahelian belt of West Africa, shea is one of the most geographically concentrated agricultural commodities in the world. Most production is concentrated in Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Mali, Nigeria, and Togo (Global Shea Alliance, 2021).

This geographic concentration masks a very different production structure at the local level. Shea trees are not plantation-grown. Instead, the shea tree (Vitellaria paradoxa) grows wild or semi-wild in Parklands across the Sahel zone (Lovett, 2004). Barriers to entry in kernel production are therefore low: anyone living in shea-growing regions can collect shea fruits and produce kernels. Kernel production is therefore fragmented and dispersed across millions of small rural producers rather than concentrated in a small number of large commercial farms.

This creates an important development challenge for the region. Although West Africa overwhelmingly dominates global shea kernel production, much of the higher-value downstream processing and manufacturing still takes place outside the region. Fragmented domestic markets, weak coordination, and limited storage and processing capacity have constrained the region's ability to translate its dominant position in raw kernel production into broader industrial upgrading and value addition.

(b) Position in Global Value Chains (GVCs)

Shea kernels are an important intermediate input in several high-value global industries (Global Shea Alliance, 2021). Although a significant share of downstream manufacturing and branded consumer production takes place outside Africa, particularly in Europe and Asia, West Africa itself has developed substantial processing capacity for shea butter and related derivatives. As a result, domestic processors occupy an increasingly important position within regional and global shea value chains.

One of the principal uses of shea derivatives is in the production of cocoa butter equivalents (CBEs). Shea stearin is a critical ingredient in CBEs, which are widely used by multinational chocolate manufacturers, particularly in the European Union. Demand for shea kernels is therefore closely linked to cocoa prices and global chocolate production cycles.

Shea products are also widely used in cosmetics and personal care applications. Shea butter is considered a premium ingredient in skincare and haircare products because of its moisturizing and protective properties. This segment of the market generally captures significantly higher margins than food-grade applications.

In addition, shea derivatives are used extensively in food manufacturing, including margarine, bakery fats, and other specialty fats. Buyers in these markets typically require standardized quality, reliable supply, and increasing levels of traceability throughout the supply chain.

The strategic importance of shea within these value chains helps explain why governments across West Africa have become increasingly concerned with domestic processing capacity

and access to shea kernels. As international demand for shea products has expanded, policymakers have increasingly sought to ensure that a larger share of processing and value addition takes place within shea-harvesting countries rather than abroad. These decisions are important not only for industrial development and trade, but also because they affect the livelihoods of millions of rural households across producing regions.

2.2 Socioeconomic Importance

(a) Rural Livelihood Anchor

The economic importance of shea extends well beyond export revenues alone. Shea kernel production provides seasonal income to millions of rural households, especially in semi-arid areas where alternative cash crops are limited (Lovett, 2004; Global Shea Alliance, 2021). For many communities, shea serves three important economic functions: (i) it provides income during the dry season, (ii) acts as a drought-resilient asset, and (iii) functions as a form of informal savings. In practice, shea income often helps households cover food and expenses during periods when income from other agricultural activities is limited.

Women play a central role throughout the upstream shea economy. In many shea-producing regions, women dominate kernel production (Global Shea Alliance, 2021; Chalfin, 2004). Income from kernel sales is also frequently controlled by women themselves, giving women greater control over household resources and expenditures.

A large body of research in development economics shows that income controlled by women is more likely to be spent on children's education, food, and healthcare (Thomas, 1990; Hoddinott & Haddad, 1995; Duflo, 2012). In many shea-producing regions, revenues from shea kernels therefore help finance school fees, medical expenses, food purchases, and other household necessities (Chalfin, 2004).

Export restrictions may consequently have important distributional effects for women and rural households, particularly when restrictions on kernel exports are introduced without parallel measures to protect rural incomes.

(b) Informality and Market Imperfections

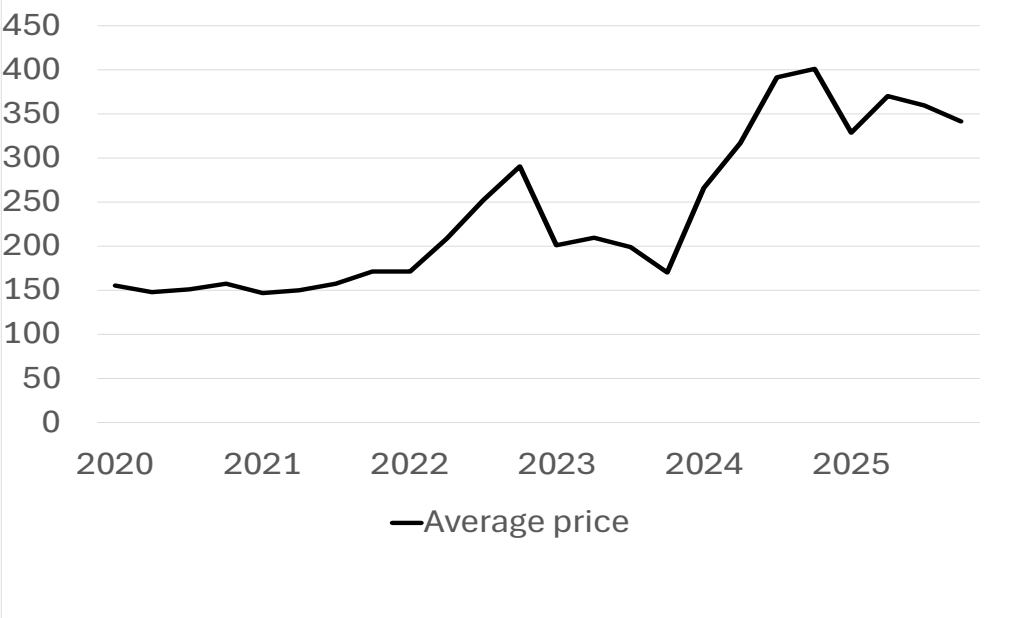
Another important feature of the upstream shea economy is its high degree of informality. Many kernel producers, most of them women, have limited access to credit, storage, transport, and direct access to buyers (Lovett, 2004). As a result, they often depend on intermediaries to finance harvests and organize trade. This dependence can widen the gap between kernel farm-gate prices and export or processor prices, reducing the share of final value received by rural producers.

Informality also makes the sector more vulnerable to poorly designed policy interventions, particularly when the interests of upstream shea producers are overlooked. Because many producers operate outside formal contracting, financial, and regulatory systems, they often have limited bargaining power and weak representation in policy discussions. As a result, the costs of export restrictions or other market interventions may be transmitted disproportionately to rural kernel producers through lower farm-gate prices, delayed payments, or reduced access to intermediaries.

2.3 The Policy Shift (2024–2025)

Since 2024, governments across West Africa have begun to retreat from the long-standing openness of the regional shea kernel market. Measures that once would have seemed exceptional, such as export bans, quotas, licensing systems, and levies, spread rapidly across the region.

Figure 1: Average farm-gate kernel prices (CFA/kg)



Source: Nkalo, and own calculations

At the center of these policies was a growing concern that domestic processors would be unable to secure sufficient supplies of shea kernels. This concern intensified during a period of rising regional kernel prices, as illustrated in Figure 1. These price increases reflected a combination of rising international demand for shea-based products, particularly as shortages and rising prices in cocoa markets increased demand for shea butter as a substitute for cocoa butter, and a particularly poor harvest in 2024. International buyers responded by purchasing large volumes of kernels early in the season. Their deeper financing capacity and more established procurement networks often gave them an advantage over domestic processors in securing supply, leaving domestic industries facing rising input costs and tightening access to shea kernels. Faced with these pressures, governments attempted to redirect a larger share of domestic kernel production toward local processors through export restrictions.

Yet governments pursued this objective in very different ways. Some effectively closed export markets altogether, while others merely increased export costs or introduced temporary restrictions that were unevenly enforced. The result was not a single export-restriction regime, but a spectrum of interventions differing in intensity, credibility, and economic consequence.

For analytical purposes, the countries examined in this report can be grouped into three broad categories. At one end of the spectrum were relatively closed regimes, where export bans or equivalent measures sharply restricted access to foreign markets. Burkina Faso, Mali, and Côte d'Ivoire fell into this category.

A second group occupied a middle ground. In these countries, export markets remained partly open but were subject to taxes, temporary bans, or inconsistent enforcement. Benin, Nigeria, and Togo belonged to this intermediate category.

At the other end of the spectrum were more open regimes, where exports remained largely unrestricted and domestic prices continued to track regional and international market conditions relatively closely. Ghana and Guinea fell into this group.

Table 1 summarizes the main export restrictions introduced across major shea-producing countries during 2020–2025. The sections that follow examine how these different policy regimes operated in practice across individual countries.

Table 1: Summary of Export Restrictions

Country	2020–2025 shea-market policy	Regime Classification
Burkina Faso	Suspended shea kernel exports in September 2024 in order to reserve supply for domestic processors.	**Closed**
Mali	Suspended shea kernel exports in October 2024 to promote domestic processing.	**Closed**
Côte d'Ivoire	Suspended raw shea kernel exports in January 2025 to secure more reliable access for domestic processors	**Closed**
Benin	Imposed an export tax of 165 CFA/kg on raw shea kernel exports in 2025 to promote domestic processing.	**Intermediate**
Nigeria	Imposed an immediate six-month ban on raw shea kernel exports in August 2025 aimed at promoting domestic processing into shea butter, olein, and other derivatives.	**Intermediate**
Togo	Temporarily suspended shea kernel exports in April 2025 to address raw-material shortages for domestic processors.	**Intermediate**
Ghana	No implemented shea export ban found within 2020–2025.	**Open**
Guinea	No implemented shea export ban found within 2020–2025.	**Open**

(a) Closed regimes (group 1)

(i) Burkina Faso

Burkina Faso was among the first countries in the region to introduce major restrictions on shea kernel exports. In September 2024, the government introduced a managed restriction system combining quotas, levies, export controls, and domestic allocation requirements (Government of Burkina Faso, 2024; Global Shea Alliance, 2025).

Rather than prohibiting exports outright, the government attempted to manage directly how supply was distributed between exporters and domestic processors. Exporters were required

to allocate part of their volumes to local processors, exports were limited to specific periods of the year, and additional measures were introduced to preserve domestic shea kernels during the commercialization season.

Burkina Faso was therefore attempting to balance two objectives that often pull in opposite directions: maintaining export earnings while simultaneously supporting domestic processing. In practice, the policy produced a more segmented domestic market in which the state increasingly influenced how supply was allocated between foreign buyers and local processors. Arbitrage weakened, and domestic prices became less closely tied to international market conditions.

(ii) Mali

In October 2024, the Mali government imposed an indefinite suspension of raw shea kernel exports, effectively closing export markets altogether (Government of Mali, 2024; Reuters, 2024). At the same time, authorities attempted to cushion the impact on rural producers by introducing a minimum farm-gate price of 250 CFA francs per kilogram for the 2025 season.

Unlike Burkina Faso's managed allocation system, Mali relied on direct administrative prohibition backed by strong enforcement measures, including the seizure of illegally exported kernels. The policy sharply reduced the role of international buyers in the domestic market and shifted bargaining power toward local processors.

The intervention therefore did not merely regulate kernel exports; it attempted to restructure the domestic market itself, making Mali the region's clearest example of a fully closed shea market.

(iii) Côte d'Ivoire

Côte d'Ivoire approached the shea sector differently than other countries. In January 2025, Côte d'Ivoire suspended exports of raw shea kernels and transferred authority over the sector to the Conseil du Coton, de l'Anacarde et du Karité, which oversees commercialization, regulation, and sector development (Conseil du Coton, de l'Anacarde et du Karité, 2025). The reform formed part of a broader effort to formalize the shea industry and secure more reliable access to shea kernels for domestic processors.

Alongside export restrictions, the government introduced negotiated minimum farm-gate prices, mandatory registration and licensing systems, authorization requirements for exports of processed shea products, and enhanced traceability and quality standards.

Unlike Mali's reliance on direct administrative prohibition, Côte d'Ivoire therefore combined export restrictions with broader efforts at regulatory coordination and sector formalization. Nevertheless, the practical effect was similar: the domestic market became increasingly insulated from international competition for raw kernels.

(b) Intermediate regimes (group 2)

(i) Benin

In 2025, Benin took a less restrictive approach than Mali or Burkina Faso. Rather than banning exports outright, the government introduced an export tax on raw shea kernels as part of the 2025-2026 commercialization campaign (Government of Benin, 2025). The tax amounted to approximately 165 CFA francs per kilogram.

The objective was not to close export markets entirely, but to shift incentives gradually toward domestic processing by making exports less profitable relative to local sales. Unlike the more interventionist systems adopted elsewhere in the region, Benin relied primarily on taxation rather than direct administrative prohibition. Export markets therefore remained largely open, and domestic prices continued to reflect international market conditions, although less directly than in fully open regimes. In this sense, Benin occupied an intermediate position between unrestricted trade and full export control.

(ii) Nigeria

In late August 2025, Nigeria introduced a temporary export ban on shea kernels as part of a broader effort to support local value addition and improve access to kernels for domestic processors (AP News, 2025).

Unlike the more durable restrictions adopted elsewhere in the region, however, Nigeria's intervention was marked by uncertainty regarding both its duration and enforcement. Although initially announced as a temporary six-month measure, restrictions appear to have remained in place beyond the original period.

That uncertainty shaped market incentives in important ways. Traders facing a temporary export ban had an incentive to store kernels rather than sell immediately at depressed domestic prices. Expectations about future policy therefore became part of current market behavior.

Nigeria thus illustrates a broader point about industrial policy: credibility matters. Policies that are temporary, uncertain, or inconsistently enforced may alter market behavior in the short run without fundamentally reshaping long-run investment incentives. For the period covered by this analysis, Nigeria therefore remained closer to an intermediate regime than a fully closed market.

(iii) Togo

In April 2025, Togo temporarily suspended exports of raw shea kernels in an effort to support domestic processing industries (Global Shea Alliance, 2025).

Compared to Mali or Burkina Faso, however, the Togolese intervention was relatively limited in both scope and duration. Restrictions appear to have functioned more as a temporary stabilization measure than as part of a broader restructuring of the sector, and enforcement remained uneven across regions and over time. As a result, the policy did not fully disconnect domestic markets from international demand, and prices continued to reflect external market conditions, although with periods of temporary divergence following the suspension. In this sense, Togo represented a relatively weak form of intermediate restriction: the policy signal

was present, but lacked the intensity and credibility necessary to produce major structural changes in market behavior.

(c) Open regimes (group 3)

(i) Ghana

Ghana has maintained one of the most open shea markets in the region. During the period covered by this analysis, exports of raw shea kernels were not subject to major quantitative restrictions.

This was not accidental. Ghana possesses by far the largest installed processing capacity in the region, with domestic processing capacity significantly exceeding national kernel production volumes. In such circumstances, domestic processors do not face the same degree of supply scarcity observed in neighboring countries. As a result, Ghana has had less incentives to restrict exports in order to secure shea kernels for domestic industry. Domestic prices therefore remained closely linked to regional and international market conditions.[2]

(ii) Guinea

Like Ghana, Guinea did not introduce export restrictions on raw shea kernels. Rather than restricting exports, Guinea has focused more on improving processing quality and market access for shea butter products.

Yet, Guinea occupies a somewhat different position within the regional market. Compared to the major West African producers, Guinea is a relatively small shea exporter and is less integrated into the core regional trading networks. Geographic factors and lower export intensity mean that Guinean prices often move somewhat differently from those observed in larger exporting countries.

As a result, Guinea remained relatively open to international trade in raw kernels, but domestic prices were less closely tied to broader regional market dynamics than in Ghana. In this sense, Guinea provides a useful contrast within the group of open regimes, illustrating how differences in market integration can shape price behavior across the regional shea economy.

(d) Comparative Perspective

What emerges from this analysis is not a single model of export restrictions, but a diverse landscape of industrial policy interventions. Yet despite their differences, the policies share a common ambition: to make shea kernels more available and less costly for domestic processors. In principle, this temporary protection may allow domestic firms to expand production, build processing capacity, and become more competitive in downstream international markets.

Export restrictions alone are unlikely to determine whether these efforts succeed. Processing capacity, policy credibility, enforcement capability, financing conditions, logistics, and

[2] Ghana's relatively open market also gave the country a broader regional role. When neighbouring countries imposed export restrictions, trade flows increasingly shifted toward Ghanaian suppliers, reinforcing the country's position as the region's principal open trading hub for shea kernels.

regional coordination all matter. Export restrictions may alter incentives in the short run, but they do not by themselves create internationally competitive industries.

This is ultimately the central tension shaping the shea sector today. Governments are attempting to use trade policy to accelerate industrial transformation, but markets are adaptive. Traders reroute supply, buyers diversify sourcing, and processors delay investment when policy appears uncertain. The outcome therefore depends not simply on the policies governments announce, but on whether firms, traders, and investors believe the policy environment is stable enough to support long-term economic relationships and sustained industrial investment.

3. Do export restrictions generate sustainable domestic industrialization

Export restrictions may alter market incentives in the short run, but whether they can produce sustained industrial transformation is a different question altogether. This chapter therefore proceeds in three parts. The first examines export restrictions through the lens of standard trade theory, comparing two polar cases: free trade and autarky. The second assesses the short-run impact of export restrictions on shea kernel exports. The third discusses possible long-run outcomes. Throughout the analysis, the focus remains on domestic market effects within shea-producing countries rather than on broader effects on global markets and the international economy.

3.1 Free trade vs autarky

(a) Under Free Trade

Under free trade, domestic shea kernel prices remain closely tied to world market prices. Producers can sell kernels either domestically or abroad, and competition between buyers keeps prices aligned, apart from transport and logistics costs (Krugman, Obstfeld, and Melitz, 2018). In practical terms, this means that producers in shea-exporting countries receive prices shaped by global market conditions: when international demand for shea kernels rises or global supply tightens, world prices tend to increase, and domestic prices tend to move with them.

(b) Under an Export Ban

When exports are restricted or banned, producers lose direct access to international buyers and can sell kernels primarily to domestic processors (Bhagwati, 1965; Anderson and Nelgen, 2012). As a result, domestic markets become partially insulated from international price movements, and prices are shaped increasingly by local supply conditions and processor demand rather than by direct competition from foreign buyers. This mechanism assumes, however, that informal cross-border trade and smuggling remain limited.

Because shea kernels are an upstream input into globally traded food, cosmetics, and specialty-fat products, processor demand nevertheless remains tied to international markets through downstream demand for processed shea products (Krugman, Obstfeld, and Melitz, 2018). Export restrictions therefore weaken, but do not fully sever, the connection between domestic and international market conditions.

The extent of that separation depends largely on domestic processing capacity. If processors are able to absorb most domestic production, competition for shea kernels can keep domestic

prices relatively close to export-parity levels. By contrast, when kernel production exceeds processing capacity, processors are unable to absorb available supply, creating excess domestic availability and downward pressure on prices. The larger the gap between production and processing capacity, the greater the divergence between domestic and world market prices (Deaton and Laroque, 1992; Bouët and Laborde, 2012).

In practice, domestic processing capacity in many shea-producing countries remains limited relative to total kernel production. Under such conditions, export restrictions are expected to cause domestic prices to fall significantly, consistent with standard results on export restrictions in commodity markets (Anderson and Martin, 2009; Bouët and Laborde, 2012).

3.2 In the short run

In the short run, export restrictions redistribute economic rents within the shea value chain. By increasing the domestic availability of shea kernels, these policies place downward pressure on farm-gate prices and alter the distribution of income between different actors in the sector. As a result, export restrictions may have broader economic and social consequences for rural livelihoods, local processing industries, and the organization of regional markets.

(a) Impact on Producers

Rural shea kernel producers, most of them women, are often adversely affected by export restrictions.

Under free trade, producers can sell kernels at prices linked to international markets. When exports are banned, competition among buyers declines, placing downward pressure on domestic prices. As a result, producer incomes fall, with broader implications for household consumption, rural welfare, and economic security in producing regions.[3]

(b) Impact on Processors

Domestic industrial processors are the main beneficiaries of export restrictions.

Because export restrictions increase domestic availability, processors may be able to secure shea kernels more reliably and, in many cases, at lower cost. This improved access to supply is one of the central motivations behind such policies. This effectively acts as an indirect subsidy to the processing sector, allowing domestic firms to access inputs below international market prices (Bouët and Laborde, 2012; Piermartini, 2004). As a result, processors gain a competitive edge over firms in countries where inputs are purchased at world market prices.

These lower input costs can enable processors to expand production, increase profit margins, and/or invest in new facilities and gain market share in downstream markets. From an industrial policy perspective, this is the primary motivation behind export restrictions and is closely related to the infant industry argument, which emphasizes temporary protection to support the development of domestic industries (List, 1841; Baldwin, 1969).

[3] This effect is well documented in the literature on commodity export restrictions (Bouët and Laborde, 2012; Piermartini, 2004).

However, the benefits depend critically on whether processors respond by investing in capacity expansion and productivity improvements. If firms fail to upgrade and become competitive, the initial cost advantage may not translate into sustained industrial development, a risk highlighted in the broader industrial policy literature (Krueger, 1974; Rodrik, 2008).

(c) Efficiency Losses

While export restrictions may improve access to shea kernels for domestic processors, they can also have broader implications for overall economic efficiency. In particular, changes in price signals may affect incentives across different parts of the value chain. In economic terms, these effects are often described as efficiency losses, reflecting a potential misallocation of resources relative to a benchmark of fully integrated markets (Harberger, 1954; Krugman, Obstfeld and Melitz, 2018).

One source of welfare loss arises because lower prices reduce incentives for harvesting shea kernels. As prices fall below the world market price, some producers may reduce collection effort, focusing only on easily accessible shea fruits and abandoning higher-cost harvesting activities that are located further away from the village. This leads to underproduction of kernels relative to what would be efficient under world market prices (Krugman, Obstfeld and Melitz, 2018; Anderson and Nelgen, 2012).

A second source of inefficiency arises when domestic processing expands under artificially low domestic input prices. Because processors benefit from below-market input costs, some production may take place under conditions that would not be competitive if they had to purchase shea kernels at world market prices. This refers to situations where domestic processors are able to compete in international markets in part due to preferential access to locally available shea kernels at relatively more favourable prices. While such protection may be justified in the short run under the infant industry argument, it becomes inefficient if firms do not improve productivity and remain dependent on distorted input prices in the long run (Baldwin, 1969; Krueger, 1974; Rodrik, 2008).[4]

Together, these effects represent a loss of economic value. Resources are not allocated to their most productive uses, and the economy forgoes potential gains from trade.

3.3 Long-term Industrial Development and Structural Transformation

Long-run industrial transformation depends on more than temporary protection alone. The literature on industrial upgrading and global value chains emphasizes the importance of economies of scale, productivity growth through learning and technology transfer, movement into higher value-added products, and stronger linkages between processors and upstream producers (Gereffi, Humphrey, and Sturgeon, 2005; Humphrey and Schmitz, 2002).

Without these conditions, export restrictions may fail to produce viable and internationally competitive industries. Moreover, if domestic processors do not achieve sustained productivity growth, global buyers may respond by substituting away from shea, reorganizing supply chains, or increasing vertical integration in alternative sourcing locations, a pattern commonly

[4] The infant-industry argument holds that temporary protection may allow domestic firms to build productive capabilities, reduce costs, and achieve the scale necessary to compete internationally (List, 1841; Baldwin, 1969). In the context of the shea sector, export restrictions are intended to make kernels more available and less costly for domestic processors, thereby supporting local processing and value addition.

observed in commodity markets and global value chains when policy distortions or supply-chain risks undermine competitiveness (Deaton and Laroque, 1992; Gereffi, 2018).

The risks associated with export restrictions are not only limited to downstream processing industries alone. Persistently low domestic kernel prices may also weaken incentives to collect shea fruits, invest in improved harvesting practices, or maintain shea parklands, consistent with the literature on price incentives and agricultural supply responses (Krugman, Obstfeld, and Melitz, 2018; Deaton, 1999). Over time, weaker investment in harvesting and parkland maintenance may reduce the long-run supply base on which domestic processing industries themselves depend.

Successful industrial transformation therefore requires a broader process of capability building across the value chain. Competitive processing industries, sustained upstream production incentives, and stronger coordination between processors, producers, and supporting institutions must develop together if export restrictions are to support durable industrial upgrading.

3.4 Policy Credibility and Long-term Risks

Industrial transformation also requires firms to believe that the policy environment will remain sufficiently credible and predictable over time for investments in domestic processing to become profitable. This distinction highlights the fundamentally dynamic nature of industrial policy. While static analysis is useful for understanding the immediate price and welfare effects of export restrictions, long-run industrial transformation also depends heavily on investor expectations, policy credibility, and the stability of the broader institutional environment.

Two strands of economic theory are particularly relevant in this context. The first is the time inconsistency framework developed by Kydland and Prescott (1977) which highlights the difficulty governments face in credibly committing to policies over long periods of time. The second is the theory of irreversible investment under uncertainty, associated with Dixit and Pindyck (1994) and Bernanke (1983), which explains why firms may delay investment when future policy conditions are uncertain.

These credibility and investment problems are especially important in the shea sector, where internationally competitive processing requires substantial upfront investment in machinery, storage facilities, logistics networks, and quality control systems. These investments are largely irreversible and can only be recovered over a long time horizon. As a result, firms will invest only if they believe export restrictions will remain in place long enough for them to recover costs and operate profitably.[5]

The difficulty is that governments may not be able to commit credibly to maintaining such policies over time. Export restrictions introduced to support domestic processors may later come under pressure from producers facing lower farm-gate prices, changing fiscal priorities, or broader shifts in government policy.[6] As a result, firms may fear that policies intended to

[5] Similar dynamics have been observed in the broader literature on industrial policy and investment under uncertainty (Rodrik, 1991; Dixit and Pindyck, 1994).

[6] This type of policy uncertainty has been shown to reduce private investment in a wide range of developing-country contexts (Rodrik, 1991; Kydland and Prescott, 1977).

support domestic processing could later be relaxed or reversed before investments become profitable.

Under such conditions, firms may therefore adopt a "wait-and-see" strategy. Rather than committing capital immediately, they may postpone investment until policy conditions become clearer.[7] As a result, policy uncertainty may slow the very investment and industrial upgrading that export restrictions are intended to encourage.

The broader implication is therefore that successful industrial upgrading depends not only on protection itself, but also on predictable policy rules, institutional credibility, coordination, and complementary investments in infrastructure and logistics (Rodrik, 2008; Humphrey and Schmitz, 2002). Without these conditions, export restrictions risk generating persistent price distortions, reduced producer incomes, and continued dependence on policy support without producing internationally competitive processing industries (Krueger, 1974; Rodrik, 2008).

4. Statistical Analysis of Price Effects

4.1 Introduction

The previous section outlined the expected economic effects of export restrictions in the shea sector. The empirical analysis that follows complements that theoretical discussion with: (i) descriptive evidence on how domestic kernel prices evolved across countries operating under different export-restriction regimes, and (ii) descriptive evidence on differences in domestic kernel production and processing capacity across shea-producing countries.

4.2 Data & Methodology

(a) Data

The empirical analysis relies on two datasets. The first, provided by Nkalo, contains shea kernel farm-gate price data for major shea-producing countries, including Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Mali, and Nigeria. This dataset reports weekly minimum and maximum farm-gate price observations for each country over the period 2020 to 2025.

The price data are further processed to ensure comparability across countries and over time.[8] Weekly minimum and maximum prices are first converted into CFA francs using annual average exchange rates. Weekly prices are then calculated as averages of the reported minimum and maximum observations or, where only one observation is available, by using the reported price directly. Monthly prices are subsequently constructed as averages of weekly prices, while yearly prices are calculated as averages of monthly prices.

[7] In the literature on irreversible investment, this is described as the "option value of waiting" (Dixit and Pindyck, 1994). The ability to delay investment has value when future market and policy conditions are uncertain (Bernanke, 1983).

[8] The underlying data are imperfect, as is often the case in agricultural markets characterized by informality and dispersed trading networks. Prices are collected across different regions and buyers, transport costs vary, and informal cross-border trade remains difficult to observe directly. Farm-gate prices should therefore not be interpreted as perfectly homogeneous market prices. Even so, the price series display remarkably consistent regional patterns over time. While the data do not allow for perfectly controlled causal estimation, they capture the broad evolution of regional market conditions sufficiently well to permit meaningful comparison across different policy regimes.

The analysis focuses on monthly and yearly prices during the main trading season from September to December. Monthly and yearly aggregation help smooth short-term volatility and irregularities in weekly observations, allowing clearer comparison of broader price movements across countries and policy regimes. Furthermore, the September-to-December period is also when the bulk of market transactions occur and price information is most meaningful. Outside the harvest season, market activity becomes thinner and data availability substantially more irregular.

The second data source is Global Shea Alliance (GSA) market intelligence, which contains annual estimates of kernel production, processing capacity, and kernel exports for several shea-producing countries over the period from 2020 to 2025. The analysis uses these data to describe how limited domestic processing capacity shapes the effects of export restrictions across countries and policy regimes.

(b) Methodology

A central challenge in interpreting the data is that regional shea kernel prices increased substantially across most countries during the period under study. This broader upward trend reflected rising international demand for shea-based products coupled with a particularly poor harvest in 2024. As a result, export restrictions did not operate in an environment of stable prices. Instead, policy interventions occurred during a period of significant upward pressure on regional kernel markets.

Under such conditions, the effects of export restrictions cannot be inferred simply from the absolute level of prices. Instead, the analysis focuses on whether prices evolved differently across countries operating under different policy regimes. The emphasis therefore falls on deviations in price trajectories and differences in the pace of price adjustment across regime categories. In this sense, the analysis relies on comparative differences across countries to separate policy-related changes from broader regional market trends (Angrist and Pischke, 2009; Card and Krueger, 1994).

4.3 Descriptive Evidence of Price Effects

Figure 2 presents the evolution of average monthly farm-gate prices across countries grouped into the three categories introduced in Section 2.3: (i) closed regimes, (ii) intermediate regimes, and (iii) open regimes.[9] To simplify exposition and highlight broader patterns across policy regimes, Table 2 complements the graphical evidence and reports yearly averages of farm-gate prices for each country group.

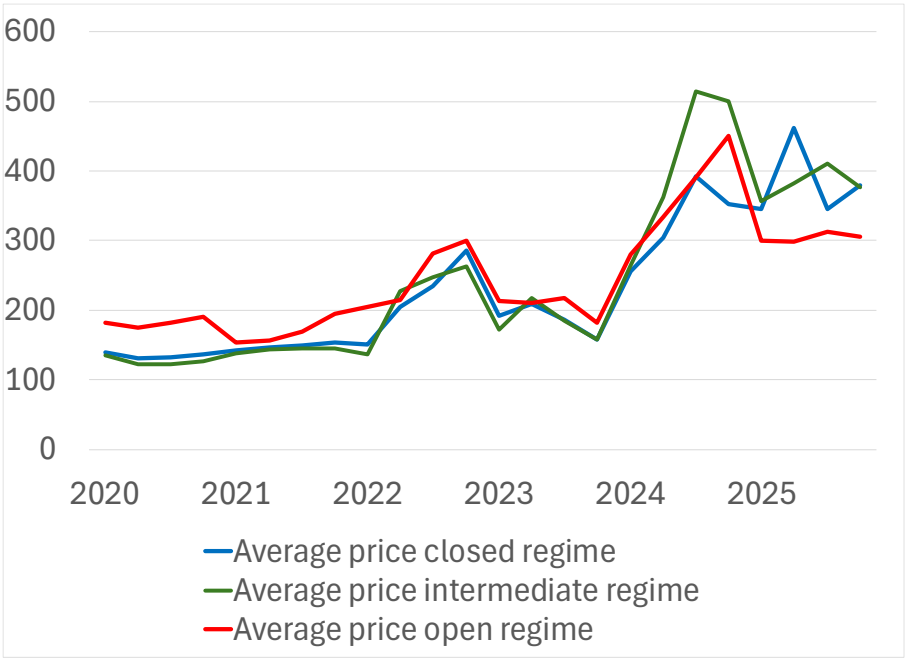
The graphical and statistical evidence reveal several broad patterns consistent with the theoretical framework developed in Section 3.

Prior to the introduction of export restrictions in late 2024, regional shea markets appeared relatively integrated. As illustrated in Figure 2, kernel price movements across the three groups remained broadly aligned, rising and falling together despite national borders and fragmented

[9] This grouping makes it possible to compare not only whether export restrictions matter, but also whether the intensity and credibility of restrictions shape market outcomes differently.

trading systems. This suggests that regional shea markets remained sufficiently connected for international market conditions to influence shea kernel prices across countries.

Figure 2: Farm-gate prices by policy regime (CFA/kg)



Source: Nkalo, and own calculations

Following the introduction of export restrictions, kernel price trajectories began to diverge across policy regimes. As illustrated in Figure 2, and summarized in Table 2, kernel prices increased across the region between 2020 and 2025, reflecting broader supply pressures associated with poor harvests and rising international demand. The magnitude of these increases, however, differed substantially across regimes. In countries maintaining open export regimes, average kernel prices rose from 135 CFA francs per kilogram in 2020 to 383 CFA francs per kilogram in 2025, corresponding to an increase of roughly 184 percent. By contrast, prices in closed regimes rose much more slowly, increasing from 182 CFA francs per kilogram to only 304 CFA francs per kilogram over the same period, or approximately 67 percent. By 2025, kernel prices in closed regimes therefore remained well below those observed in open regimes despite starting from higher levels in 2020.

Table 2: Farm-gate prices by policy regime (CFA/kg)

	Average price closed regime (group 1)	Average price intermediate regime (group 2)	Average price open regime (group 3)
2020	182	126	135
2021	168	143	148
2022	250	218	219
2023	206	183	186
2024	364	410	326
2025	304	382	383
%Change: 2020-2025	67%	202%	184%

Source: Nkalo, and own calculations

These patterns are broadly consistent with the theoretical discussion developed in Section 3. In the theoretical framework, export restrictions increase domestic kernel availability and place downward pressure on domestic prices relative to the counterfactual of continued free trade. In practice, however, the policies were introduced during a period of rising regional prices driven by a poor harvest and increasing international demand. Rather than generating absolute price declines, the restrictions therefore appear to have dampened domestic price increases relative to neighboring countries that remained more exposed to regional and international market conditions.

The evidence also suggests that the magnitude of price effects depended importantly on the intensity and credibility of the policy regime. Although kernel prices increased across most countries during the period, the pace of these increases differed systematically across regime categories. Countries operating under intermediate regimes experienced average kernel price increases from 126 CFA francs per kilogram in 2020 to 382 CFA francs per kilogram in 2025, corresponding to an increase of approximately 202 percent. Over much of the period, price growth in intermediate regimes therefore exceeded that observed in open regimes, reflecting continued exposure to regional and international demand pressures despite the introduction of partial or less credibly enforced restrictions.

This pattern began to change in 2025, when several intermediate-regime countries started introducing their own export restrictions. Average kernel prices in intermediate regimes, which had risen sharply to 410 CFA francs per kilogram in 2024, declined by approximately 7 percent in 2025. By contrast, average prices in open regimes continued to rise from 326 CFA francs per kilogram to 383 CFA francs per kilogram over the same period, corresponding to an increase of approximately 17 percent. These patterns suggest that the measures introduced by intermediate regimes in 2025 reduced exposure to international demand pressures and contributed to moderating domestic price increases.

The evidence also suggests the presence of important regional spillover effects. Export restrictions in one country did not simply affect prices within national borders. Once buyers lost access to kernels in closed regimes, procurement shifted toward countries where exports remained possible. This dynamic was particularly evident in intermediate regimes, where average kernel prices rose from 183 CFA francs per kilogram in 2023 to 410 CFA francs per kilogram in 2024. By comparison, average prices in open regimes increased from 186 CFA francs per kilogram to 326 CFA francs per kilogram over the same period. The comparatively sharper price increases observed in intermediate regimes may help explain why several of these countries, including Nigeria, adopted restrictive measures in 2025.

Table 3: Farm-gate prices for countries in policy regime 1 (CFA/kg)

	Burkina Faso	Cote d'Ivoire	Mali
2020	208	153	186
2021	198	140	167
2022	291	221	238
2023	225	198	194
2024	405	355	330
2025	325	323	264
%Change: 2020-2025	56%	111%	42%

Source: Nkalo, and own calculations

As demonstrated above, kernel prices in closed regimes remained substantially below those observed in intermediate and open regimes. Table 3 extends the analysis by comparing price trajectories within the closed-regime category itself and reveals important differences within countries classified as closed regimes. Although Burkina Faso, Mali, and Côte d'Ivoire all implemented restrictive export measures, domestic kernel price trajectories diverged substantially across countries during the period. Between 2020 and 2025, average kernel prices in Mali increased from 186 CFA francs per kilogram to 264 CFA francs per kilogram, corresponding to an increase of only 42 percent. By comparison, average prices increased by 56 percent in Burkina Faso and by 111 percent in Côte d'Ivoire over the same period. Mali therefore experienced the weakest price growth among the closed-regime countries despite the broader regional increase in kernel prices.

These differences are broadly consistent with the theoretical discussion developed earlier in the paper. Compared with Burkina Faso and Côte d'Ivoire, Mali combined more restrictive and more credibly enforced export controls, although relatively limited domestic processing capacity also contributed to the observed price dynamics, as discussed further below. The evidence therefore suggests that variation in enforcement intensity played a role in shaping domestic price outcomes even within the same broad policy regime by affecting the extent to which rising international prices were transmitted into domestic markets.

Taken together, the graphical and country-year evidence are broadly consistent with the theoretical mechanisms described in Section 3. Domestic kernel prices generally rose more slowly following the introduction of export restrictions, and these effects were strongest where restrictions were more binding.[10] Appendix 9 further shows that these broad descriptive patterns remain visible in a simplified difference-in-difference framework comparing changes in prices across policy regimes before and after the introduction of export restrictions.

4.4 Processing Capacities: Risk of Oversupply

Section 3 highlighted the importance of domestic processing capacity in shaping the effects of export restrictions: when processors are unable to absorb available domestic supply, export

[10] Appendix 8 further presents country specific price series and compares each country with the regional average farm gate price.

restrictions can create excess supply within domestic markets and place significant downward pressure on kernel prices.

Table 4: Processing Capacities: Risk of Oversupply

	Export Suspension	Total Production Capacity (MT)	Current Installed Processing (Crushing) Capacity (MT)	Exports Surplus/Deficit (kernels) (MT)	Projected Trapped Capacity	Export value loss from not selling kernels (500 USD/MT)
Burkina Faso	Suspension	161,000	150,000	11,000	11,000	5,500,000
Mali	Suspension	100,000	60,000	40,000	40,000	20,000,000
Côte d'Ivoire	Suspension	30,000	90,000	-60,000	0	0
Togo	Suspension	45,500	45,000	500	500	250,000
Benin	No Suspension	84,000	105,000	-21,000	0	0
Nigeria	No Suspension	174,000	195,000	-21,000	0	0
Ghana	No Suspension	91,000	390,000	-299,000	0	0

Source: Authors' estimates based on Global Shea Alliance (GSA) market intelligence.

Table 4 illustrates this mechanism by comparing annual total kernel production, exports, and installed processing capacity across major shea-producing countries. The data reveal substantial differences in the ability of domestic industries to absorb supply internally once exports are restricted.

Burkina Faso, Mali, and Côte d'Ivoire all introduced export restrictions in 2024, effectively closing large parts of their shea kernel sectors to international trade. Despite adopting broadly similar policy measures, the underlying balance between kernel production and domestic processing capacity differed substantially across the three countries.

Burkina Faso produced approximately 161,000 metric tons of shea kernels annually, compared with roughly 100,000 metric tons in Mali and 30,000 metric tons in Côte d'Ivoire. At the same time, Burkina Faso also possessed the largest installed processing capacity, capable of processing approximately 150,000 metric tons of kernels annually. By contrast, processing capacity in Mali and Côte d'Ivoire was estimated at roughly 60,000 and 90,000 metric tons respectively.

These differences had important implications once export restrictions were introduced. In Burkina Faso, domestic processors were capable of absorbing a relatively large share of national kernel production, limiting the amount of excess supply trapped within the domestic market. Côte d'Ivoire similarly maintained processing capacity that substantially exceeded domestic kernel production. Mali, however, faced a much larger imbalance between kernel production volumes and domestic processing capacity. Once exports were restricted, a significantly larger share of domestic production could no longer be absorbed internally or exported abroad.

This helps explain why domestic price growth remained substantially weaker in Mali than in Burkina Faso or Côte d'Ivoire despite the broader regional increase in kernel prices. In effect, the combination of restrictive export controls and limited processing capacity reduced the transmission of rising international prices into Mali's domestic market more sharply than in neighboring countries.

Moreover, this combination of export restrictions and limited processing capacity risks substantial export-earnings losses for Mali in normal harvesting years. The available data

suggest that the country may forego approximately USD 20 million in shea kernel export sales per year following the introduction of export restrictions. Given the central role women play in shea kernel production, a significant share of these losses will likely be borne by rural women through lower incomes.

At the same time, these outcomes need not be permanent. If processing capacity expands sufficiently quickly over time, domestic demand for kernels may gradually absorb a larger share of redirected supply, reducing oversupply and allowing prices to recover. Under such conditions, export restrictions may support the development of a larger domestic processing industry by ensuring processors have more reliable access to shea kernels during the early stages of industrial expansion.[11]

Finally, Table 4 also illustrates the importance of regional coordination. It shows that some countries are net exporters of shea kernels while others, including several major processing countries, are net importers. This demonstrates that domestic kernel production and processing capacity are interconnected across national borders through regional trade flows. Once exports were restricted in neighbouring countries, procurement pressures and trade flows shifted toward markets that remained relatively open. As a result, unilateral export restrictions did not simply affect domestic markets in isolation, but also generated spillover effects across the wider regional shea economy.[12] This is one reason why regional coordination matters so much. In an integrated regional market, unilateral restrictions tend to generate spillover effects that neighbouring countries cannot easily ignore.

5. Policy Implications

The evidence presented in this report suggests that export restrictions can influence market outcomes, but that their long-run effectiveness depends heavily on the broader institutional and economic conditions surrounding them. Processing capacity, logistics, financing, regional coordination, and policy credibility all shape whether these policies support industrial upgrading or instead generate persistent market distortions.

At the same time, intervention in highly integrated regional markets often produces spillover effects that extend beyond national borders. Trade diversion, informal cross-border flows, and shifting procurement patterns can weaken the effectiveness of unilateral restrictions and fragment regional supply chains. Policies that appear straightforward on paper therefore often generate more complicated outcomes in practice.

The central policy challenge is not simply whether governments should intervene, but how interventions can be designed in ways that support industrial development without undermining regional market integration and long-run competitiveness.

[11] Conversely, if investment in processing capacity lags behind kernel production, oversupply may persist and domestic prices may remain depressed for prolonged periods, increasing the risk that export restrictions generate continuing market distortions rather than sustainable industrialization.

[12] These dynamics help explain why prices in some open and intermediate regimes increased sharply following the introduction of restrictions elsewhere in the region.

5.1 Strengthening Regional Coordination and Industrial Cooperation

Before export restrictions spread across the region, the shea market functioned largely as an integrated West African market. Kernels moved across borders with relatively little friction, and prices remained broadly connected across countries.

Once governments introduced unilateral export restrictions, however, markets adapted quickly. Buyers redirected procurement toward neighboring countries where exports remained possible, while traders increased informal cross border shipments. These spillover effects created growing pressure for neighboring governments to adopt similar measures, generating a cascading pattern of intervention across the region.

These dynamics suggest that stronger regional coordination will likely be necessary if export restrictions are to support long-run industrial development. Institutions such as ECOWAS and AfCFTA can potentially play an important role in reducing regulatory fragmentation, coordinating policy objectives, and limiting incentives for smuggling and regulatory arbitrage.

At the same time, the shea sector illustrates the limits of purely national industrial strategies in highly integrated regional markets. Processing capacity, logistics networks, transport corridors, and export infrastructure operate across borders. If every country attempts to build the same processing industry simultaneously while restricting exports independently, the result may be duplication of investment, fragmented supply chains, and underutilized capacity.

There may therefore be greater scope for regional industrial cooperation than is often recognized in current policy discussions. Rather than competing for limited volumes of shea kernels, countries could coordinate investment strategies, infrastructure development, and quality systems at the regional level. Such coordination could improve economies of scale, reduce logistical bottlenecks, and strengthen West Africa's collective position within global shea value chains.

Without stronger regional coordination, unilateral export restrictions risk simply redirecting trade geographically rather than fundamentally transforming the structure of the regional industry. Industrialization, after all, is not merely a matter of protecting domestic markets, but of building industries capable of competing internationally over long periods of time.

5.2 Ensure Policy Credibility

One of the central findings of this report is that policy credibility matters at least as much as policy itself.

Processing industries require large upfront investments in machinery, storage, logistics, and quality control systems. Firms make such investments over long time horizons and therefore base decisions not only on current prices, but also on expectations about future policy conditions.

When export restrictions appear temporary, inconsistent, or politically uncertain, firms may delay investment even if short-run profitability improves. In effect, uncertainty itself becomes a barrier to industrialization.

For industrial policy to encourage long-term investment, market participants must believe that the policy environment will remain reasonably stable over time. This does not necessarily require permanent export bans. But it does require predictable rules, transparent implementation, and credible policy commitments.

Gradual transitions may therefore be more effective than abrupt interventions. Allowing producers, traders, and processors time to adjust reduces uncertainty, limits unnecessary supply chain disruption, and increases the likelihood that firms will undertake the investments necessary for long term industrial upgrading.

Ultimately, successful industrialization depends not only on restricting exports, but on building confidence that long-term investment in the sector will remain viable.

5.3 Supporting Industrial Upgrading Through Complementary Policies

Export restrictions may increase the domestic availability of shea kernels, but access to raw materials alone is unlikely to generate sustained industrial upgrading. A broader set of supporting measures is often required to ensure that domestic processors are able to take advantage of the additional supply created by export restrictions.

Improving access to finance is one way of supporting the expansion of domestic processing industries. Even when kernels become more readily available, many domestic processors continue to face difficulties obtaining long-term financing for machinery, working capital, and capacity expansion. Targeted financing mechanisms, credit guarantees, and investment-promotion initiatives may therefore help ensure that processors respond to export restrictions by expanding productive capacity rather than merely benefiting from lower input costs.

Investments in infrastructure and quality upgrading can play a similar role. Efficient logistics networks, transport corridors, and export infrastructure help reduce transaction costs, improve market access, and strengthen the competitiveness of domestic processors in both regional and international markets. Likewise, investments in quality-control systems, traceability, and certification can strengthen processor competitiveness and improve access to higher-value domestic and international markets.

Industrial upgrading also depends on the effective functioning of upstream supply chains and producer markets. Support for producer organizations and storage facilities can strengthen producer bargaining power, reduce post-harvest losses, improve coordination among market participants, and lower transaction costs throughout the value chain.

Taken together, policies that improve access to finance, strengthen infrastructure, and support stronger market institutions can help translate greater domestic kernel availability into higher processing capacity and stronger industrial development. In this sense, they can complement export restrictions by enabling domestic processors to respond more effectively to increased access to shea kernels while reducing some of the distortions associated with restrictive trade measures. At the same time, these policies remain valuable regardless of whether export restrictions are in place because they strengthen the underlying foundations of a competitive processing industry.

6. Conclusion

The current wave of shea export restrictions represents more than a temporary market intervention. It reflects a broader shift in how West African governments seek to position themselves within global value chains: not merely as exporters of raw commodities, but as participants in higher-value industrial production.

The evidence presented in this paper suggests that these policies have already produced visible and measurable effects on regional markets. By limiting access to international buyers, export restrictions increased the domestic availability of shea kernels and slowed domestic price growth, particularly in countries implementing tightly enforced export bans. These effects were strongest where domestic processing capacity remained limited relative to kernel production, contributing to oversupply, weaker transmission of international prices, and reduced export earnings.

At the same time, the broader lesson of the evidence is that restricting exports is easier than building competitive industries. Markets adapted quickly to intervention through trade diversion, informal cross-border flows, and shifting procurement patterns across neighboring countries. In highly integrated regional markets, unilateral restrictions therefore generated spillover effects that neighboring countries could not easily ignore.

Whether export restrictions ultimately support industrialization depends less on the restrictions themselves than on the broader institutional and economic conditions surrounding them. Investment in processing capacity, infrastructure, financing, logistics, and policy credibility all matter. Without these supporting conditions, export restrictions risk functioning primarily as redistributive mechanisms that weaken producer incentives and generate persistent market distortions rather than sustained structural transformation. In highly integrated regional markets, these challenges are also likely to be addressed more effectively through regional coordination and cooperation than through isolated national interventions.

In sum, the central challenge for governments in the region is not simply how to restrict exports, but how to create the institutional and economic conditions under which domestic processing industries can become competitive over the long run. The success of this transition will depend less on restricting trade itself than on governments' ability to build the productive capabilities, institutional credibility, and regional coordination necessary to sustain competitive processing industries over time.

7. Bibliography

Anderson, K., and Martin, W. (2009). *Distortions to Agricultural Incentives in Africa*. Washington DC: World Bank.

Anderson, K., and Nelgen, S. (2012). "Trade barrier volatility and agricultural price stabilization." *World Development*, 40(1), 36 to 48.

Angrist, J., and Pischke, J. (2009). *Mostly Harmless Econometrics*. Princeton: Princeton University Press.

AP News (2025). "Nigeria announces temporary ban on raw shea kernel exports to support local processing." *Associated Press*, August 2025.

Baldwin, R. (1969). "The case against infant industry tariff protection." *Journal of Political Economy*, 77(3), 295 to 305.

Bernanke, B. (1983). "Irreversibility, uncertainty, and cyclical investment." *Quarterly Journal of Economics*, 98(1), 85 to 106.

Bhagwati, J. (1965). "On the equivalence of tariffs and quotas." In R. Baldwin et al. (eds.), *Trade, Growth, and the Balance of Payments*. Amsterdam: North Holland.

Bouët, A., and Laborde, D. (2012). "The economics of export taxation: A review of the literature." *World Economy*, 35(11), 1337 to 1355.

Card, D., and Krueger, A. (1994). "Minimum wages and employment: A case study of the fast food industry." *American Economic Review*, 84(4), 772 to 793.

Chalfin, B. (2004). *Shea Butter Republic: State Power, Global Markets, and the Making of an Indigenous Commodity*. New York: Routledge.

Conseil du Coton, de l'Anacarde et du Karité (2025). *Réforme de la filière karité et suspension des exportations de noix brutes*. Abidjan: CCAK.

Deaton, A., and Laroque, G. (1992). "On the behaviour of commodity prices." *Review of Economic Studies*, 59(1), 1 to 23.

Dixit, A., and Pindyck, R. (1994). *Investment under Uncertainty*. Princeton: Princeton University Press.

Duflo, E. (2012). "Women Empowerment and Economic Development." *Journal of Economic Literature*, 50(4): 1051-1079.

Food and Agriculture Organization (FAO) (2018). *Developing Sustainable Shea Value Chains*. Rome: FAO.

Global Shea Alliance (2021). *Shea Industry Report*. Accra: GSA.

Global Shea Alliance (2025). *Regional Market Updates on Shea Export Restrictions*. Accra: GSA.

Government of Benin (2025). *Campagne de commercialisation 2025–2026 du karité*. Cotonou: Ministry of Industry and Commerce.

Government of Mali (2024). *Suspension des exportations de noix de karité brutes*. Bamako: Ministry of Industry and Trade.

Harberger, A. (1954). "Monopoly and resource allocation." *American Economic Review*, 44(2), 77 to 87.

Hoddinott, J., and Haddad, L. (1995). "Does Female Income Share Influence Household Expenditures? Evidence from Côte d'Ivoire." *Oxford Bulletin of Economics and Statistics*, 57(1): 77-96.

Krueger, A. (1974). "The political economy of the rent seeking society." *American Economic Review*, 64(3), 291 to 303.

Krugman, P., Obstfeld, M., and Melitz, M. (2018). *International Economics: Theory and Policy*. 11th edition. Harlow: Pearson.

Kydland, F., and Prescott, E. (1977). "Rules rather than discretion: The inconsistency of optimal plans." *Journal of Political Economy*, 85(3), 473 to 491.

List, F. (1841). *The National System of Political Economy*. London: Longmans.

Lovett, P. (2004). *The Shea Butter Value Chain: Production, Transformation and Marketing in West Africa*. WATH Technical Report No. 2. USAID West Africa Trade Hub.

Piermartini, R. (2004). *The Role of Export Taxes in the Field of Primary Commodities*. Geneva: World Trade Organization.

Raballand, G., and Mjekiqi, E. (2010). *Nigeria Trade Policy and Smuggling*. World Bank Policy Research Working Paper. Washington DC: World Bank.

Reuters (2024). "Mali suspends exports of raw shea kernels to support domestic processing." *Reuters*, October 2024.

Rodrik, D. (1991). "Policy uncertainty and private investment in developing countries." *Journal of Development Economics*, 36(2), 229 to 242.

Rodrik, D. (2008). "Industrial policy: Do not ask why, ask how." *Middle East Development Journal*, 1(1), 1 to 29.

Thomas, D. (1990). "Intra-Household Resource Allocation: An Inferential Approach." *Journal of Human Resources*, 25(4): 635 to 664

8. Appendix: Country-Specific Price Developments

The following country-level analysis links specific policy measures to observed price dynamics.

(a) Open regimes

Ghana and Guinea provide benchmarks for price developments under relatively liberal market conditions.

In Ghana, prices closely follow regional and international trends and increase following the introduction of export restrictions in neighbouring countries, reflecting demand diversion toward open markets.

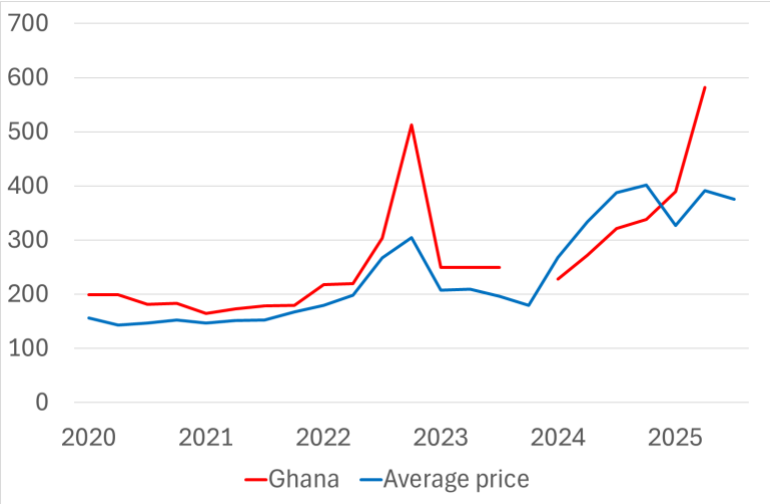
In Guinea, price movements broadly follow regional trends but remain somewhat lower, consistent with more limited integration into export markets.

(i) Ghana

Ghana has maintained a relatively open export regime for shea kernels. While the policy direction has increasingly emphasized domestic value addition, exports of raw kernels have not been subject to strict quantitative restrictions during the period under analysis. As a result, Ghana provides a useful benchmark for price developments under relatively liberal market conditions.

Farm-gate prices in Ghana tend to track broader regional price movements and often serve as a benchmark for neighbouring markets.

Figure 3: Farm-gate prices in Ghana (CFA/kg)



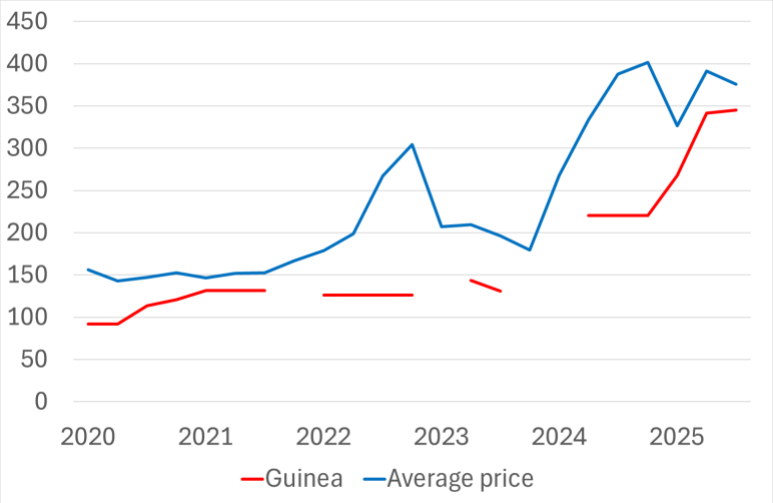
Source: Nkalo

The figure shows that farm-gate prices in Ghana closely track regional and global price movements. Following the introduction of export restrictions in neighbouring countries, prices increase more strongly, reflecting demand diversion toward open markets. This pattern is consistent with the role of Ghana as a reference market in the region.

(ii) Guinea

Guinea has not implemented export restrictions on shea kernels. Policy efforts have instead focused on improving processing quality and market access for shea butter rather than restricting raw kernel exports. As a result, Guinea operates under a relatively open market regime.

Figure 4: Farm-gate prices in Guinee (CFA/kg)



Source: Nkalo

The figure indicates that price movements in Guinea broadly follow regional trends, with less pronounced deviations compared to other countries. This is consistent with a relatively weak integration into large-scale export markets and the absence of major policy distortions.

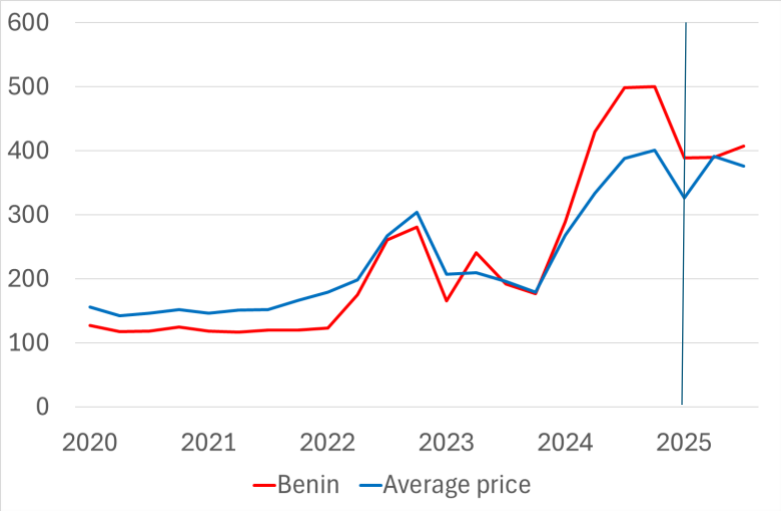
(b) Intermediate regimes

Benin, Nigeria, and Togo represent intermediate cases where export restrictions have been implemented through partial, temporary, or inconsistently enforced measures.

(i) Benin

Benin has adopted a price-based restriction in the form of a significant export tax on raw shea kernels rather than a full export ban. This policy reduces the profitability of exports without fully closing the export channel, placing Benin in an intermediate policy category.

Figure 5: Farm-gate prices in Benin (CFA/kg)



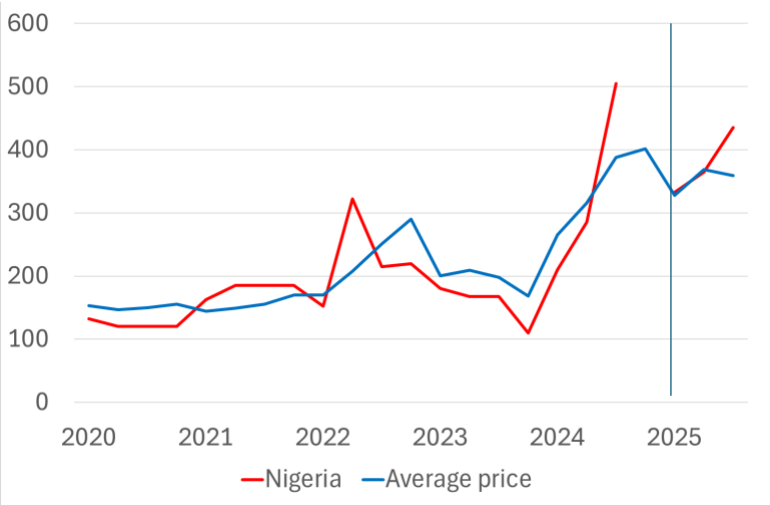
Source: Nkalo

The figure shows that prices in Benin remain partially aligned with regional trends, but with moderate deviations. This reflects the fact that export channels remain open, albeit at higher cost, leading to weaker price suppression compared to countries with full export bans.

(ii) Nigeria

Nigeria introduced a temporary export ban on shea kernels in late August 2025 as part of a broader industrialization strategy. However, the policy has been short-lived and inconsistently enforced, resulting in a highly uncertain policy environment.

Figure 6: Farm-gate prices in Nigeria (CFA/kg)



Source: Auxiliary market sources

The figure shows significant price volatility in Nigeria. Due to lack of data before and after the introduction of the policy measure, it is difficult to observe the direct impact of the policy change on farm-gate prices.

(iii) Togo

Togo introduced a temporary suspension of raw shea kernel exports in April 2025 to support domestic processing. The measure appears to have been short-term and less systematically enforced compared to other countries in the region.

Figure 7: Farm-gate prices in Togo (CFA/kg)



Source: Nkalo

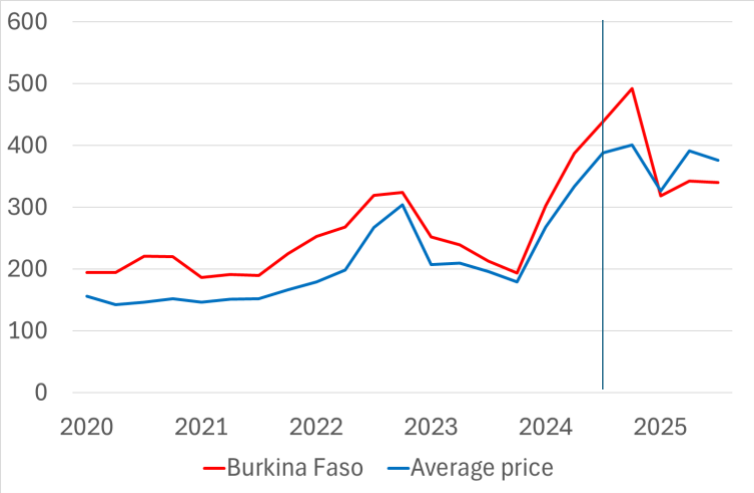
The figure suggests only short-term price adjustments following the introduction of the export suspension. Again, due to the lack of the prior to the introduction of the policy measure, it is unclear what the direct effect of the policy change was. Overall, the effects appear less persistent and visible in the data.

(c) Closed regimes

(i) Burkina Faso

Burkina Faso introduced export restrictions in September 2024, combining quotas, export levies, and domestic allocation requirements. This represents a managed restriction regime aimed at ensuring supply for domestic industrial processors.

Figure 8: Farm-gate prices in Burkina Faso (CFA/kg)



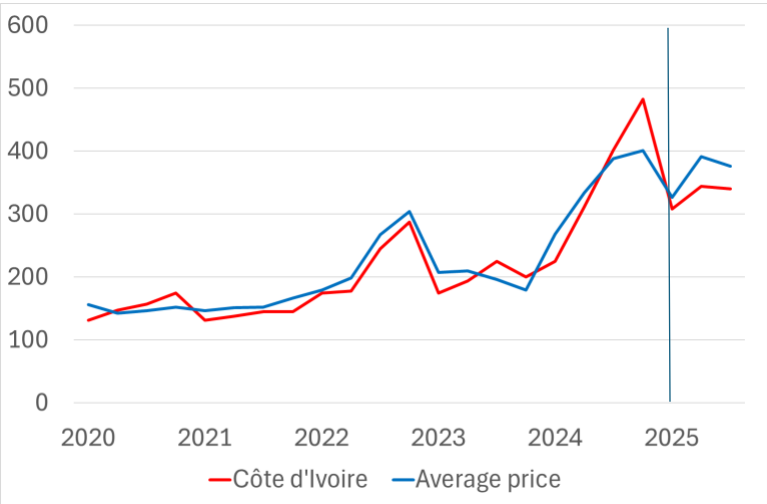
Source: Nkalo

The figure shows a clear decline in farm-gate prices following the introduction of export restrictions. This is consistent with the removal of export demand and the resulting increase in domestic availability of kernels.

(ii) Côte d'Ivoire

Côte d'Ivoire introduced a suspension of raw shea kernel exports in January 2025 as part of a broader regulatory reform of the sector. The policy is accompanied by increased oversight and formalization of the value chain.

Figure 9: Farm-gate prices in Cote d'Ivoire (CFA/kg)



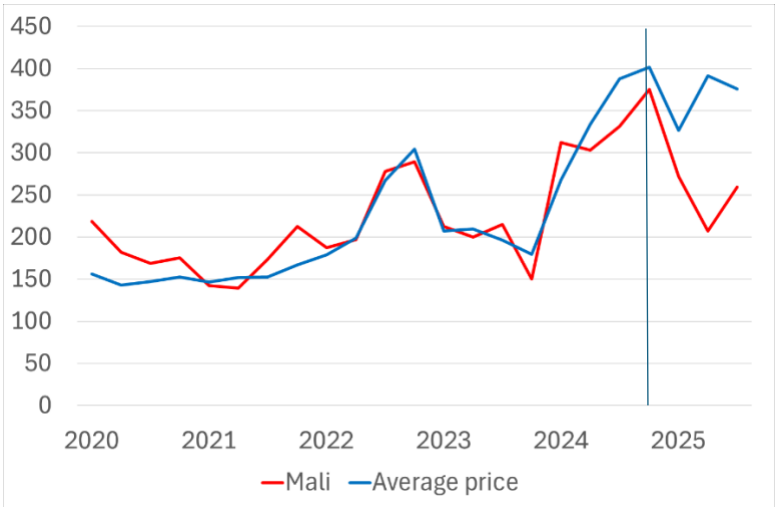
Source: Nkalo

The figure shows clear price breaks corresponding to changes in policy. Prices decline following the introduction of restrictions and recover when export conditions are relaxed, indicating a strong response of market participants to regulatory changes.

(iii) Mali

Mali implemented a full export ban on shea kernels in October 2024, combined with strong enforcement measures and a minimum farm-gate price. This represents one of the most stringent policy regimes in the region.

Figure 10: Farm-gate prices in Mali (CFA/kg)



Source: Nkalo

The figure shows the strongest and most persistent price suppression among all countries. This is consistent with the combination of strict export restrictions and limited domestic processing capacity, leading to significant domestic oversupply.

9. Appendix: Difference-in-Difference Analysis of Price Effects

The descriptive evidence already points toward a clear conclusion: countries that restricted exports more aggressively experienced larger and more persistent reductions in domestic kernel price growth. The remaining question is whether this pattern remains visible once prices are compared systematically before and after policy intervention.

To explore this question, the analysis uses a simplified difference-in-difference framework. Rather than comparing countries at a single point in time, the approach examines how prices evolved in closed-regime countries relative to countries that maintained open export regimes. This helps distinguish policy-related changes from broader market movements affecting all countries simultaneously (Angrist and Pischke, 2009; Card and Krueger, 1994).

The key assumption underlying this approach is that, absent policy intervention, prices across countries would have continued to follow broadly similar trends. In the present case, this assumption appears reasonably plausible. Figure 2 shows that farm-gate prices across countries moved largely together prior to late 2024, suggesting substantial regional market integration despite national differences in market structure and regulation. Once export restrictions were introduced, however, those trajectories diverged.

Table 5 reports the results of the difference-in-difference analysis, which suggests that countries implementing closed regimes experienced significantly weaker domestic price growth relative to countries that maintained open export markets. The estimated effect implies

that farm-gate prices in closed regimes were approximately 25 percent lower relative to open regimes following the introduction of strict export restrictions. The estimated effect is statistically significant, with an associated p-value of 0.011.

These results, however, should not be interpreted as precise causal effects. The number of countries included in the analysis is limited, policy implementation varied across countries, informal trade flows remain difficult to observe directly, and export restrictions themselves generated spillover effects across neighboring markets. The estimates are therefore best understood as indicative evidence consistent with the broader market patterns observed throughout the report.

Table 5: Difference-in-Difference Estimates of Export Restrictions on Farm-Gate Prices

Dependent variable: Log farm-gate price	Coefficient	p-value
Closed regime × Post-policy period	-0.25	0.011
Constant	5.41	<0.001
Observations:	48	
Countries: 5	5	
Period:	2020–2025 (trading season observations only)	
Treatment group:	Burkina Faso, Côte d'Ivoire, Mali	
Control group:	Ghana, Guinea	

Source: Nkalo, and own calculations