

Effect of Export Levies on Hides and Skins on Competitiveness of Kenya's Leather Products

Mohamed Ramadhan, Kenneth Malot, Kevin Wanjala
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*Mohamed Ramadhan, Kenneth Malot, Kevin Wanjala
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Abstract

Kenya's leather industry is a strategic sub-sector as outlined in Vision 2030 and the Bottom-up Economic Transformation Agenda 2022-2027. Targeted interventions in the industry are aimed at boosting manufacturing and export competitiveness. Through the Miscellaneous Fees and Levies Act No. 29 of 2016, the government introduced an export levy on raw hides and skins to support value addition, local manufacturing, and export competitiveness of leather and leather products. This study assesses the export competitiveness of various categories of leather products and the impact of export levies on their competitiveness. Using data from the World Integrated Trade Solution and International Trade Centre databases, the study focused on raw hides, skins, leather articles, and footwear products falling under HS codes 41, 42, and 64, across distinct export levy regimes of 20 per cent, 40 per cent, 80 per cent, 50 per cent and before the implementation of export levies. The findings show that the Revealed Comparative Advantage (RCAs) for raw hides and skins became strong with the imposition of higher export levies, indicating a strong comparative advantage. RCA for articles of leather remained very low, showing no comparative advantage whereas RCA for footwear products had a weak comparative advantage. Market diversification had fluctuating results where raw hides and skins could not be diversify into more markets except with the imposition of 20 per cent export levy. In addition, articles of leather and footwear products benefited from increased diversification with higher export levies. The Export Market Penetration Index indicated that higher export levies led to a significant increase in market penetration and competitiveness in the international markets. Higher export levies of 50 per cent and 80 per cent contributed to a broader market reach and enhanced competitiveness for Kenya's leather products compared to the period before the implementation of the export levies. This demonstrates that export levies impacted both market diversification and export market penetration positively but not much impact was realized for revealed comparative advantage. To enhance the competitiveness of leather and leather products, the study recommends that: first, there is a need to implement targeted investment strategies to boost the competitiveness of raw hides and skins, articles of leather, and footwear products by investing in processing facilities to upgrade leather processing and tanning. Second, leveraging regional and international trade agreements like the African Continental Free Trade Area and enhancing existing trade relations with key importing countries could improve market diversification and penetration. Third, improving industry infrastructure and technology to enhance the quality and quantity of leather products is crucial. Finally, there is a need to develop domestic manufacturing capabilities by investing in capacity building and skills development programmes to boost the competitiveness of the leather industry.

Abbreviations and Acronyms

AGOA	African Growth and Opportunity Act
CET	Common External Tariff
DFQF	Duty-Free Quota-Free
EAC	East African Community
EPAs	Economic Partnership Agreements
EU	European Union
GATT	General Agreement on Tariff and Trade
GSP	Generalized System of Preferences
LDCs	Least Developed Countries
MFN	Most Favoured Nation
NTBs	Non-Tariff Barriers
PEM	Partial Equilibrium Method
SMART	Software for Market Analysis and Restrictions on Trade
SPS	Sanitary and Phytosanitary Standards
SSA	Sub-Saharan Africa
TBT	Technical Barriers to Trade
WITS	World Integrated Trade Solutions
WTO	World Trade Organization

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1. Introduction

The leather industry in Kenya has evolved into one of the key agricultural sectors, with a strong potential to contribute to economic growth by expanding the export market for semi-processed, finished leather, and leather items. Consequently, the government has introduced an export levy on exports of raw hides and skins by amending the Miscellaneous Fees and Levies Act No. 29 of 2016 to support value addition, local manufacturing, and export competitiveness of leather and leather products. The implementation of this policy tool is expected to benefit the entire leather sector value chain, from farmers to tanneries, manufacturers, and exporters of manufactured leather and leather products.

Over the years, Kenya served as a leather footwear hub for East Africa. However, in the recent past, it has become a minor exporter of leather and leather products (only US\$140 million, 0.14% of world export in 2013). This has significantly impacted the competitiveness of leather products in the global markets, except for raw material availability and access. In 2019, Kenya's leather sector accounted for barely 0.9 per cent of manufacturing GDP, compared to countries such as Ethiopia (8.5%), Italy (3.1%), and India (1%). Kenya's leather exports consist of semi-processed tanned "wet blue" leather (89%), raw hides and skins (5%), finished leather (2%), and leather footwear and handbags, travel ware, and other leather products (4%).

The competitiveness of leather exports in Kenya is not yet fully realised, resulting in the continued export of raw hides and skins, with the export of manufactured leather articles being limited. For instance, in 2022, Kenya exported leather articles valued at US\$2 million, compared to exports of US\$19 million in raw hides and skins (ITC, 2022). To enhance the manufacturing and export competitiveness of finished leather and leather products in Kenya, Vision 2030's economic pillar aims to promote industrialization and value addition in key sectors, including the leather industry, within the manufacturing sector. Moreover, the Bottom-Up Economic Transformation Agenda (BETA) envisions the revitalization of the leather products manufacturing industry by establishing leather industry clusters in Athi-River, Narok, Isiolo, and Wajir, thereby unlocking the leather industry's potential of approximately Ksh 120 billion, which could create 100,000 jobs.

Countries have imposed export levies on primary product exports to address the issues surrounding these exports, emphasize value addition, and enhance the export of competitive products (World Trade Organization, 2004). The WTO regulations regarding export restrictions offer adequate policy space for domestic policy considerations, such as export levies, without contravening WTO rules. Article XI of the General Agreement on Tariffs and Trade (GATT) generally prohibits quantitative restrictions. However, under paragraph 2b, there are general exceptions that permit temporary export restrictions to prevent the exportation of unprocessed key commodities. Thus, WTO members have continued to apply export levies on primary products such as raw agricultural produce and natural resource products. Leveraging the GATT provisions, Kenya has imposed export levies on raw hides and skins to enhance the manufacturing

of leather and leather products. Consequently, the objective of this paper is to: assess the export competitiveness of various categories of leather products (raw hides and skins, articles of leather, and footwear, and to establish the impact of the implementation of export levies across all the export levy regimes.

2. Kenya's Trade in Leather Products

Kenya Vision 2030, the government's long-term development agenda, identifies manufacturing and manufactured products as a key driver of export competitiveness and employment growth. The Medium-Term Plans (MTPs), which implement the Vision 2030, prioritize the leather industry as a sector of interest in achieving the vision. For instance, MTP IV (2023-2027) examines the possibilities for building leather industry clusters to promote collaboration, information sharing, and resource optimization.

Statistics from the International Trade Centre at HS 6 classification show that Kenya's leather exports include articles of leather, saddlery, and harness; travel goods, handbags and similar containers; and footwear, gaiters and the like; as well as parts of such articles. However, there has been a significant export of raw hides and skins, which accounted for more than 25 per cent of Kenya's total leather exports until 2007, when an 80 per cent export duty was imposed on raw hides and skins, later reduced to 50 per cent in 2023 to encourage value addition in the leather sector.

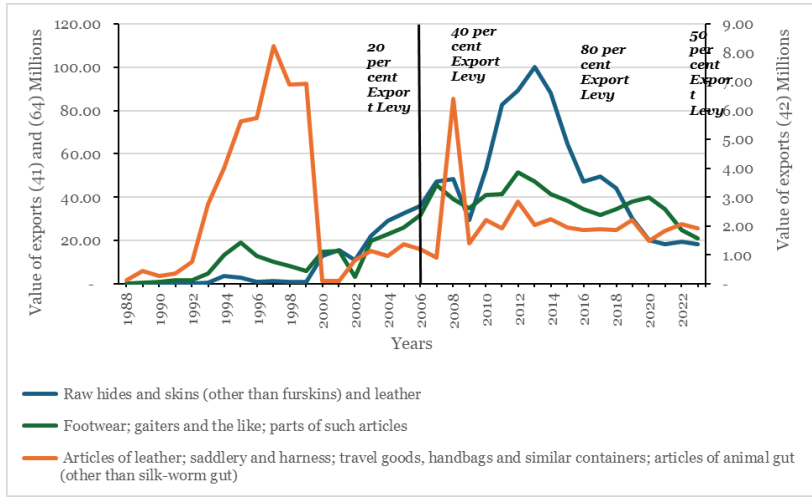
Figure 2.1 illustrates the export trends for leather products and raw hides and skins from 1988 to 2023. Raw hides and skins experienced fluctuations in export volumes during the pre-levy period (1988-2002), with notable peaks in 1994 and 2001, indicating an initial growth phase in the market. The introduction of a 20 per cent levy from 2003 to 2006 resulted in a 47 per cent rise in exports, reaching US\$35.9 million in 2006, demonstrating the market's resilience to absorb the levy without detrimental effects. The levy was subsequently increased to 40 per cent from 2007 to 2011, during which export volumes peaked at US\$82.8 million in 2011, possibly due to increased global demand or improved processing capabilities. However, the substantial increase to an 80 per cent levy from 2012 to 2022 led to a substantial decline in exports, with volumes dropping to US\$18.5 million by 2021, reflecting the impact of high export levies. In 2023, the levy was reduced to 50 per cent, resulting in a slight decrease in exports to US\$18.1 million.

The export of leather articles experienced steady growth during the pre-levy period (1988-2002), with a notable increase in 1995 and a peak in 1997. The market remained resilient throughout the 20 per cent levy period (2003-2006), achieving a high of US\$1.4 million in exports in 2005. The introduction of a 40 per cent levy from 2007 to 2011 did not significantly affect export volumes, which remained stable and reached a peak of US\$1.9 million in 2011. There was a consistent rise in exports during the 80 per cent levy period (2012-2022), peaking at US\$2.8 million in 2012, though volumes saw a slight decline afterwards, indicating some effect of the high levy.

The footwear export market experienced significant growth during the pre-levy period (1988-2002), particularly in 1994 and 1995, when exports reached over US\$13.0 million. Exports increased steadily during the 20 per cent levy period (2003-2006) and peaked at US\$31.7 million in 2006, indicating robust market demand despite the levy. The 40 per cent levy period (2007-2011) saw export volumes fluctuate but remained high, peaking at 45.7 million in 2007 and maintaining consistent performance thereafter. The 80 per cent levy period (2012-2022) yielded mixed results, with exports peaking at US\$51.3 million in

2012 but gradually declining to US\$24.9 million by 2022. In 2023, under a 50 per cent levy, exports fell to US\$ 20.9 million.

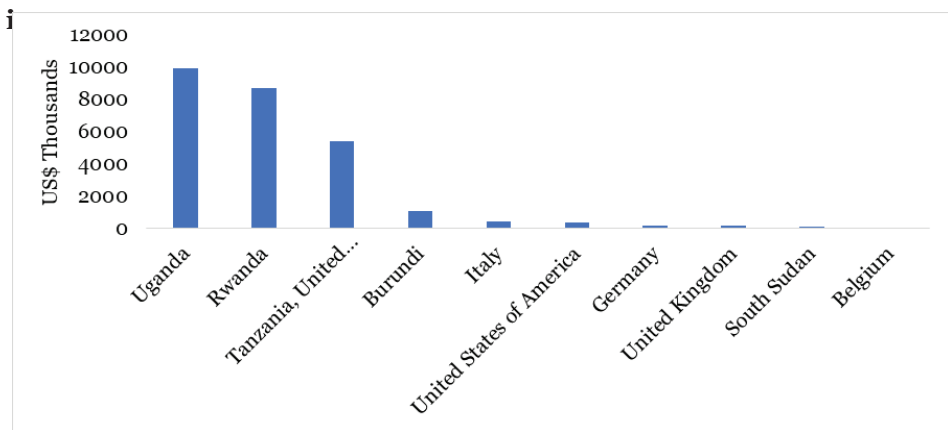
Figure 2.1: Trend for Kenya exports of leather products in US\$ millions



Source: International Trade Centre, ITC

Notably, most African countries, including Kenya, primarily export raw hides and skins, as well as wet blue leather and crust, while maintaining a low production capacity for finished leather. Consequently, an emerging imbalance between supply and demand for leather products is evident not only in Kenya but across the region. Nevertheless, Figure 2.2 offers insights into the top destination countries for exports of Kenya's leather products. The statistics also demonstrate the market availability of Kenyan leather products. Uganda is the leading destination, followed by Rwanda, Tanzania, Burundi, Italy, and the United States of America, among other top export destinations.

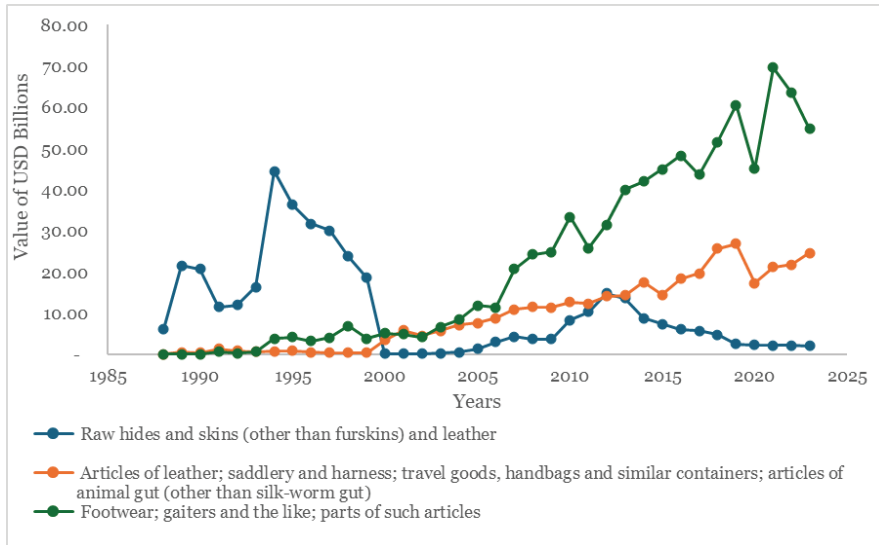
Figure 2.2: Top ten export destinations for Kenya's leather products



Source: International Trade Centre, ITC

Further, Figure 2.3 illustrates the trend in import values of three categories of leather-related products from Kenya between 1988 and 2023. It shows a steady increase in the import of raw hides and skins, with the peak occurring in 2012, before the imports began to decline. Articles of leather and leather goods exhibit consistent growth, overtaking raw materials in 2013 and experiencing a slight decline after 2020 before starting to grow steadily again until 2023. Finally, footwear imports demonstrate the most significant growth and volatility, peaking in 2021 before commencing a decline towards 2023.

Figure 2.3: Trends in the imports of leather products in Kenya

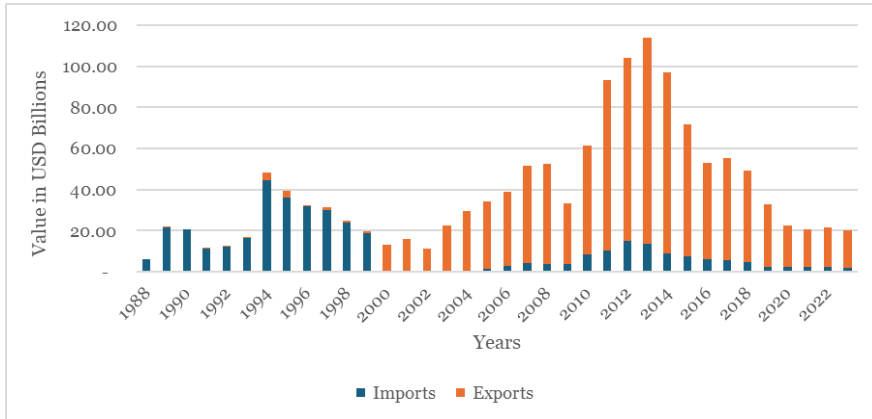


Source: International Trade Centre, ITC

2.1 Kenya's Trade in Raw Hides and Skins

Figure 2.4 illustrates the trade flows of imports and exports of raw hides and skins (excluding furskins) and leather for the period from 1988 to 2023. It is evident that the country has been both importing and exporting raw hides and skins. During the period from 1988 to 1999, the country imported more raw hides and skins than it exported. Starting in 2000, the export of these products surpassed imports, which saw a slight increase until 2013, before beginning to decline over time. This decline was further noted in 2016, likely due to the imposition of an 80 per cent export tariff on raw hides and skins. Statistics indicate that exports of raw hides and skins fell to 3.0 per cent of leather exports, while the share of tanned leather product exports grew substantially. This trend in importing raw hides and skins is attributed to a successful revitalization of the entire Kenyan leather sector. As a result, Kenya has benefited from price increases for wet salted hides and goatskins, making the process of purchasing skins, processing them into blue leather, and exporting semi-finished leathers a lucrative business for established tanneries.

Figure 2.4: Trade flows on imports and exports of raw hides and skins

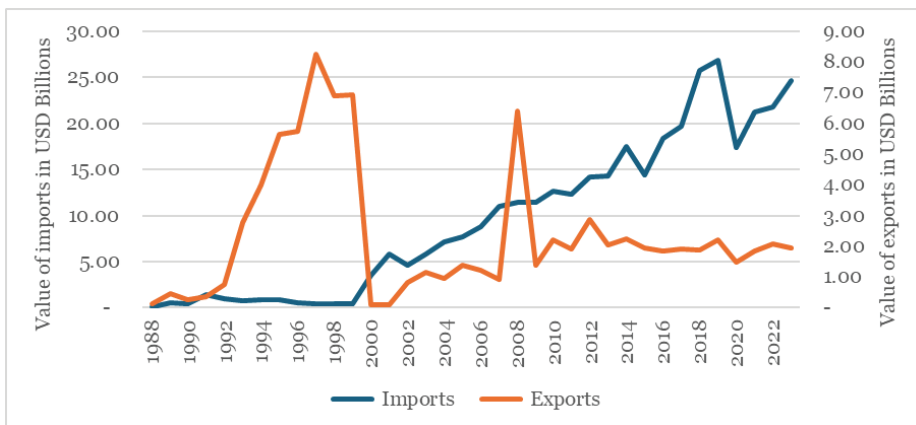


Source: International Trade Centre, ITC

2.2 Kenya’s Trade in Articles of Leather; Saddlery and Harness; Travel Goods, Handbags and Similar Containers; and Articles

Figure 2.5 illustrates the trade flows of imports and exports for leather articles, saddlery and harness, travel goods, handbags, and similar containers, and articles made from animal gut for the period from 1988 to 2023. In the early 1990s, the country recorded a trade surplus, with exports significantly exceeding imports between 1993 and 1999.

Figure 2.5: Trade flows on imports and exports for articles of leather, saddlery and harness, travel goods, handbags, and similar containers, and articles made from animal gut (1988-2023)



Source: International Trade Centre, ITC

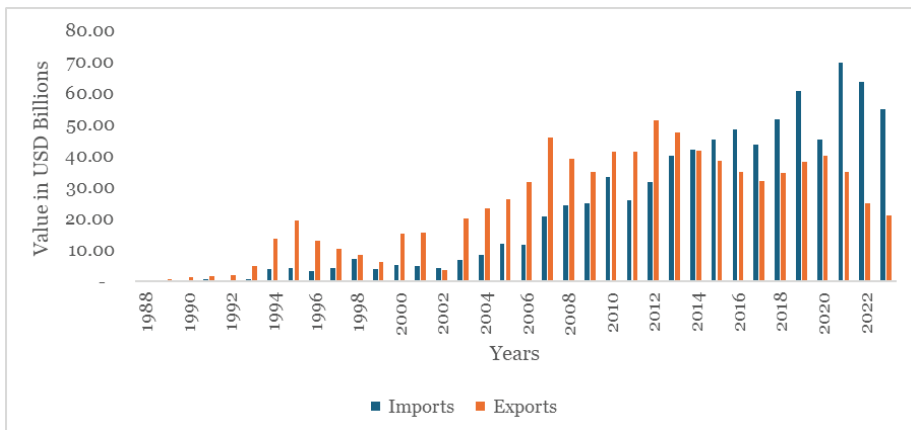
From 2000 onwards, this trend reversed as imports began to exceed exports. Consequently, this shift resulted in a persistent trade deficit in leather goods,

peaking in 2019 when the import-export gap surpassed US\$24 million. This trend reflected Kenya's growing dependence on imported leather products, which may be due to increasing domestic demand, challenges affecting the competitiveness of the local leather industry, or a necessity for strategic interventions to enhance export capacity.

2.3 Kenya's Trade in Footwear, Gaiters and Parts of such Articles

The country's Vision 2030 has established strategies aimed at value addition by accelerating the transition from semi-processed stages to finished leather products to optimize its untapped opportunities and earnings. Figure 2.6 presents the imports and exports of footwear, gaiters, and similar items, as well as parts of such articles, for the period from 1988 to 2023. The exports have fluctuated during the study period, with a recent downward trend observed since 2020. However, imports have increasingly varied over time from 1988 to 2023, with a significant spike noted in 2021. Specifically, between 1988 and 2001, exports exceeded imports, with notable peaks in early 1995 indicating a strong competitive advantage in footwear production. In 2002, imports outweighed exports, a trend that re-emerged in 2014 when imports began to rise sharply, leading to a gradual increase in the trade deficit, which peaked in 2022. This shift underscores a growing dependency on imported footwear, potentially driven by rising domestic demand or challenges in the competitiveness of local manufacturing.

Figure 2.6: Trade flows on imports and exports for footwear, gaiters, and similar items and parts of such articles (1988-2023)



Source: International Trade Centre, ITC

3. Literature Review

3.1 Theoretical Literature

3.1.1 Theories of comparative advantage

Ricardian and Heckscher-Ohlin (H-O) theories, provide valuable frameworks for understanding the export competitiveness of leather products. The Ricardian theory emphasizes that countries should specialize in producing goods where they have a comparative advantage, which is determined by differences in technology across nations. In the context of leather products, this theory suggests that countries should focus on producing leather goods where they have technological superiority or efficiency compared to other countries. For instance, a country with advanced tanning technology may have a comparative advantage in producing high-quality leather goods.

The Heckscher-Ohlin theory adds that a country's comparative advantage in producing leather products is determined by its relative factor endowments, such as labour and capital. According to this theory, a country abundant in cheap labour may specialize in producing labour-intensive leather products, while a country abundant in capital may focus on capital-intensive leather goods. For example, a country with a large workforce skilled in leather crafting may excel in producing handmade leather products, while a country with advanced machinery may specialize in mass-production of leather goods.

In the study of the export competitiveness of leather products, these theories assist in analysing why certain countries excel in exporting specific types of leather goods. By examining factors of comparative advantage, this study identifies patterns in international trade and evaluates the export competitiveness within the leather industry. Additionally, understanding these theories can inform policymakers about the importance of investing in technological innovation, workforce training, and infrastructure development to enhance a country's export competitiveness in the leather sector.

3.1.2 Standard new trade theory

According to Krugman (1979), the new trade theory broadens the perspective on trade beyond traditional models of comparative advantage, introducing the critical role of increasing returns to scale as a reason for trade. This indicates that trade between developed countries, which specialize in manufacturing goods, and developing countries, which specialize in primary goods, adheres to the concept of comparative advantage. However, trade between advanced countries themselves is grounded in economies of scale (or increasing returns) where manufacturers exchange goods among themselves. Therefore, countries specialize in a limited range of products to capitalize on economies of scale, not solely on inherent

resources or technological advantages, but to maximize the benefits of large-scale production.

The attraction of economies of scale, as new trade theory suggests, does not merely stop at increased production efficiency. It also caters to consumer preferences for a diverse range of products, thereby enriching the global marketplace with an expanded array of goods. This specialization and scale-driven trade, remarkably, applies even to countries with comparable resource endowments and technological capabilities.

The new trade theory provides a compelling framework for examining policies such as export levies, which are perceived to have the potential to influence the scale of operations and specialization patterns within the leather industry. By altering cost structures and competitive dynamics, these levies may impact a country's standing in the global leather market. Specifically, the theory proposes analyzing how such levies affect economies of scale in leather production and whether they contribute to or detract from the industry's ability to compete on the international stage.

3.1.3 Revenue generation theory

Taxation is often employed by the government as a primary revenue-generating tool and is deemed highly essential (Naiyeju, 1987). The purpose of taxes is significant because, without the mobilization of funds through savings or taxation, the government may struggle to carry out most of its developmental projects that contribute to economic growth and wealth creation.

While providing public goods and services, government expenditure creates an atmosphere conducive to capital formation (CF), which in turn raises economic growth and development, and helps eradicate poverty (Uremadu, 2008; Ogamba, 2003; Dienning, 1981). Thus, taxation can serve as a principal tool for generating revenue for the government to finance various expenditure programmes aimed at improving the living standards of its citizens.

However, the purpose of taxation has recently been questioned, given that the government possesses the authority to generate additional funds through deficit financing (Akujobi, 1988). A suggestion contested by Ndulue (2005) proposes that if the government resorts to printing money whenever it needs funds, the financial system would undoubtedly experience inflationary pressures, which may be detrimental to the economy. Uremadu (2008); Okafor (1983) suggest that to prevent inflation, the government should advocate for taxation measures such as imposing export levies and/or borrowing from the capital market and/or money markets through the sale of municipal bonds.

This study investigates the effects of export levies on the competitiveness of leather products. Export levies, as a form of taxation, can significantly influence the competitive landscape of the leather industry by affecting production costs, market pricing, and ultimately, its international market positioning. This research explores the balance between using export levies as a revenue source for the

government and maintaining the competitiveness of the leather industry, thereby contributing to broader economic growth and development objectives.

3.2 Empirical Literature

Gorton and Davidova (2001) define competitiveness as the ability of a country to increase its share of world markets for its products due to comparative advantage at a lower production cost. According to this definition, competitiveness is viewed as a zero-sum game, as one country's gain comes at the expense of others. The authors suggest that two factors underpin a country's competitiveness in the international trade market: price competitiveness and improved product quality.

Maqbool et al. (2018) investigated Pakistan's competitiveness in leather and leather products using a set of Revealed Comparative Advantage (RCA) and Revealed Competitive Advantage indices for international commerce. The study used the Balassa index, Vollrath index, and Revealed Symmetric Comparative Advantage (RSCA) index to conduct an empirical analysis in Pakistan from 2003 to 2014. The findings revealed that Pakistan had a significant comparative advantage in this industry during the study period, suggesting the potential for leather sector exports to generate foreign exchange earnings. The results also indicate that the leather sector belongs to the "competitive position product group" and the "threatened product group." Similarly, RCA indices were utilized by Maqbool et al. (2020) to analyze the competitiveness in Pakistan's cereal sector. Maqbool et al. (2020) utilized several RCA indices to measure the competitiveness of the top five cotton-exporting economies and concluded that Pakistan achieved competitiveness in this sector.

Fitawek (2015) analyzed the effect of export tax on Ethiopia's raw hides, skins, and the export growth of leather products, as well as their global market situation. The study employed secondary data from various national and international sources spanning the years 1997 to 2014. A linear trend analysis model, the RCA model, and the Constant Market Share (CMS) model were used for the analysis. According to the findings from the linear trend analysis, Ethiopia's raw hides and skins, and semi-processed leather products, experienced a significant decline in exports due to the heavy export tax imposed by the government to promote the production and export of finished leather products. In contrast, finished leather products and footwear showed a significant and increasing export trend following the imposition of the export tax. The results of the RCA analysis corroborated the findings of the trend analysis. Furthermore, the CMS model results indicated that the competitiveness of Ethiopia's raw hides and skins, and semi-processed leather, was very low and negative in all selected markets.

Sachithra et al. (2014) used the RSCA indices to analyze the comparative advantage of Sri Lankan exports and discovered that the country has a comparative advantage in its exports. Similarly, Ignjatijevic et al. (2014) assessed the competitiveness and comparative advantage of Danube economies, revealing that these countries' competitiveness was increasing. Oduro and Offei (2014) studied Ghana's RCA using a set of RCA metrics and found that Ghana has a comparative advantage in nine agro-processed product groups.

Shahhab and Mahmood (2013) also employed the RCA index to measure the comparative advantage of selected nations in the leather sector. This study used the RCA index to assess competitiveness in China, Iran, India, and Pakistan from 2002 to 2009. According to the empirical results, China, India, and Pakistan exhibited the greatest comparative advantage, whereas Iran displayed a comparative disadvantage in the chosen area. In a related study, Shah et al. (2009) used the RCA index to analyze the competitiveness of exports in the fruit sector and revealed a comparative advantage for Pakistan during the study period. Ghani et al. (2008) focused on the footwear industry to examine Pakistan's competitiveness in the global economy. The study addressed the challenges facing the footwear industry and identified the crucial role of entrepreneurship. The findings indicated that the footwear industry had transitioned from a disadvantaged position to a comparative advantage from 2003 to 2006, in comparison to India and China.

Haddad (2000) applied the RCA index and the intra-industry index to trade data from 1985 to 1997 to assess the competitiveness of Middle East and North Africa (MENA) countries in global markets. The results revealed that improvements in export competitiveness were not evident. While investigating the export competitiveness of FIJI over the period from 1998 to 2002, using the RSCA index, Parsad (2004) found that the selected countries had a comparative advantage in a limited range of exports across various commodities.

Benkovskis and Worz (2012) utilized data from 1996 to 2011 to develop the export price index and estimated changes in non-price determinants for nine emerging economies worldwide. The results indicated that China gained significantly from non-price factors in its international competitiveness across markets. Similarly, Chile, Brazil, Turkey, and India also demonstrated improvements in their non-price competitiveness. In contrast, Argentina and Indonesia faced declines in non-price competitiveness. The application of the RCA index is also evident in the study by Erkan and Kazim (2014), which highlighted that Turkey had a weaker comparative advantage than the EU +13 countries, as they adjusted their production factors in export goods based on scientific advancements. Chaudhary (2016) also evaluated India's comparative advantage in the textile sector from 2005 to 2014 using the RCA index and found that India maintained a comparative advantage in this sector during this period.

In the case of Pakistan, Longmire and Debord (1993) estimated the comparative advantage in the production of major lucrative agricultural crops and the impact of government price intervention. In 2004, Mehmood measured the competitiveness of non-agricultural produce exports through the RCA. In 1999-2000, 34.7 per cent of products from the clothing and textile sector showed 'competitively positioned products' status compared to 23.9 per cent from the chemical industry. The RCA index was also utilized by Ilyas et al. (2005), who worked on competitiveness among Asian exporters in the world rice market. They employed both Balassa and White index for empirical analysis by utilizing the data spanning from 1985-2005. Their results indicated that India, Pakistan, Thailand and Vietnam had the comparative and competitive advantage in the rice exports.

Anwar et al. (2005) applied the policy analysis matrix approach to measure Pakistan's competitive advantage in cotton production, followed by Javed et

al. (2006), who calculated competitive advantage in two provinces of Pakistan (Punjab and Sindh) from 1998/99 to 2002/03. The same approach was also utilized by Hussain et al. (2006 and 2006a) to estimate the competitive advantage and competitiveness of Pakistan in the production of rice and sugarcane, with their study revealing that Pakistan has a comparative advantage in the production of basmati rice. Similarly, Akhter et al. (2009) investigated Pakistan's competitiveness in fruit yield by utilizing data from FAOSTAT (2008) for the period from 1995 to 2005. The findings of the analysis assert that Pakistan has a higher competitiveness and competitive advantage in mango and date production, but less in orange production, in comparison to major competitors.

A comprehensive study on the agriculture sector's exports (Riaz, 2009; Riaz et al., 2010; and Riaz and Jansen, 2012) employed Balassa's measure of RCA to determine the competitiveness of selected agricultural products in overseas export markets. This study calculated the level of competitiveness of Pakistan's various agricultural products in these markets. The results indicated that the livestock sector had a significant share in value-added agriculture but was unsuccessful in achieving any competitiveness. Competitiveness is evident in rice and fruits; however, when considering specific markets and individual products, the picture becomes gloomy. Gulf states have a close spatial connection with Pakistan, but Pakistani meat could not secure any comparative advantage there. Dairy products from Pakistan competed effectively in other South Asian countries. Processed products, such as cheese, maintained a strong position in Europe and the United States. Due to stringent sanitary and phytosanitary standards in the target markets, alongside inconsistent supplies, poor quality, and ineffective marketing strategies, Pakistan was unable to maintain its position in the export of fresh fruit to high-income countries. Conversely, processed horticultural products have succeeded in these higher-income markets.

Pamornmast et al. (2013) empirically analyzed the relationship between exchange rates and export competitiveness in Thailand. The study employed time-series data on exchange rates, overall exports, agricultural exports, and industrial exports, using advanced statistical techniques, including regression analysis and the Johansen Cointegration Test. The regression results indicated a negative relationship between the exchange rate and overall, agricultural, and industrial exports. However, the Johansen Cointegration Test revealed a non-long-term relationship between the exchange rate and any of the three export categories. Consequently, the assertion that the appreciation of the domestic currency negatively impacts export competitiveness, whether for overall, agricultural, or industrial products, is not flawed but rather exemplifies the prevailing discourse.

Kordalska et al. (2014) investigated the impact of the manufacturing sector on the export competitiveness of European countries using a spatial panel data model. Analyzing manufacturing data from 19 EU countries over the period 1995-2009, the study concluded that spatial dependencies play a statistically significant role in modelling export competitiveness. The analysis identified various determinants of export competitiveness, which differed based on whether they were measured by export value or net exports.

4. Methodology

4.1 Theoretical Framework

The concept of competitiveness encompasses various aspects, resulting in several definitions despite extensive theoretical and empirical research conducted. Scott (1985) defines competitiveness as a nation's capacity to produce and distribute service products in the international market to outcompete goods and services from other countries while at the same time ensuring an improvement in living standards. Jan Fagerberg (1988) also defines competitiveness as a country's ability to achieve key economic policy objectives, particularly growth in income and employment, while avoiding balance of payments issues.

The study is grounded in revenue generation theory, which considers government tariffs, such as export levies, a primary tool for collecting government revenue. However, this study extends the theory by illustrating that export levies act not only as a source of revenue but also as an incentive for value addition, aimed at boosting domestic production of finished leather products. Export levies discourage the export of raw hides and skins while allowing their import, thereby directing these raw materials to domestic industries for processing into semi-finished and finished products. This value addition improves the quality and market value of leather exports, ultimately enhancing job creation and contributing to long-term economic growth.

In this study, competitiveness is defined as a country's ability to produce manufactured leather products that can compete directly or indirectly with those produced by other exporting countries. As defined by the World Bank's 2011 classification, the study utilizes indicators of RCAs, export diversification, and market penetration to measure leather and leather products' export competitiveness. The Balassa Revealed Comparative Advantage Index (Balassa RCA) is employed to calculate the RCA, focusing on establishing country specialization in various groups of leather products. To assess leather products' export diversification, which indicates the degree of geographical concentration, the study uses the Herfindahl-Hirschman Index (HHI). Additionally, the Index of Export Market Penetration (EMPI) is utilized to demonstrate how well the leather product group penetrates both existing and new markets. Collectively, these measures provide a comprehensive understanding of a nation's export competitiveness in terms of leather products.

Further, the study considered real exchange rates, and the percentage of manufacturing value added to GDP as control variables. Economic theory posits that the competitiveness of domestic and foreign operators is closely linked to price, which is influenced by the exchange rate (Schembri, 1989; Piana, 2001). According to this principle, a depreciation of the domestic currency is expected to boost exports while reducing imports (Chaiboonsri, 1999; Sakunbongkot, 2001; Kaewmanee, 2007; Patchimnan, 2011). Additionally, a higher percentage of manufacturing value added to GDP indicates a robust manufacturing base,

which ensures efficient production processes and economies of scale, ultimately enhancing the export competitiveness of leather products.

Borrowing from the theoretical framework, the study's analytical model is illustrated in Equations 4.1, 4.2, and 4.3, where the competitiveness of leather products depends on export levies, manufacturing value added, and exchange rates.

$$\text{Revealed Comparative Advantage} = f(\text{Export levies}, \text{Manufacturing Value Added}, \text{Exchange Rate}) \quad 4.1$$

$$\text{Market Diversification} = f(\text{Export levies}, \text{Exchange Rates}, \text{Manufacturing Value Added}, \text{Exchange Rate}) \quad 4.2$$

$$\text{Market Penetration} = f(\text{Export levies}, \text{Manufacturing Value Added}, \text{Exchange Rate}) \quad 4.3$$

4.2 Indices for Measuring Export Competitiveness

The RCA, the Herfindahl-Hirschman market diversification index, and the market penetration index were employed to measure the export competitiveness of the leather group of products. To calculate the indices, the annual export data was drawn from the International Trade Centre (ITC) and World Integrated Trade Solution (WITS) for the period between 1988 and 2023.

4.2.1 Revealed comparative advantage index

The study utilized the Balassa index as a measure of RCA. This technique is based on Ricardo's notion of RCA. The original RCA measure was proposed by Balassa (1965), who defined the export competitiveness of a specific product or industry from a country, as measured by the RCA index, as the relative share of the country's export of the product in the world export of the same product, divided by the country's overall share in global exports. This criteria is commonly used to measure the product competitiveness of a country in the international market (Hasibuan and Sayekti, 2018; Leromain and Orefice, 2014; Mallick and Marques, 2016; Nath, Liu, and Tochkov, 2015; Stângaciu and Harja, 2013; Startienė and Remeikienė, 2014; Wahyudi, 2016). RCA is formulated as follows:

$$RCA = (X_{ijt} / X_{jt}) / (W_{it} / W_t) \quad 4.4$$

Where X_{ijt} denotes the leather product export value from Kenya to the world market, X_{jt} is the total value of Kenyan exports to the world market. W_{it} is the leather export value from the whole world, and W_t is the total export value of the world exports. To examine the power of comparative advantage, the RCA index of Balassa is classified into four categories as shown in Table 4.1.

Table 4.1: Categorization of Balassa index of RCA

No.	Classification	Explanation
A	$0 < RCA \geq 1$	No comparative advantage
B	$1 < RCA \geq 2$	Weak comparative advantage
C	$2 < RCA \geq 4$	Moderate comparative advantage
D	$RCA > 4$	Strong comparative advantage

Source: *Hinloopen, 2001*

When calculating the RCA, if the results show that a country's RCA for a specific commodity is greater than one (>1), then that country's product is more competitive than the global average. Conversely, a value of less than one (<1) indicates that the country's product is less competitive than the global average (Tambunan, 2001).

4.2.2 Market diversification index

Market diversification contributes to competitiveness when a country aims to be the sole provider of leather products in most importing countries while avoiding the constraints. This leadership is achieved by meeting global demand, expanding manufacturing capacity, and maintaining a robust logistical infrastructure. Consequently, this enhances commercial influence and fosters strong trade ties, while also improving importers' perceptions of reliability. As a result, a country can excel in export volume, a key measure of competitiveness, while also promoting economic development and solidifying its position in the global leather trade.

Market diversification is achieved through the penetration of new markets, the development of differentiated products, and the promotion of innovation (Uddin et al., 2022). However, effective and resilient diversification encounters challenges such as the volatility of the international market, tariff and non-tariff barriers, increasing environmental awareness, and demands for quality and food safety standards (Ageyeva et al., 2021), as well as logistical issues in product conservation (Ikegaya et al., 2021). In a highly competitive environment, addressing quality, sustainability, and traceability demands are crucial in attaining international competitiveness (Pascucci, 2018). This goal requires constant innovation in production processes and adaptability to the evolving tastes of consumers and various global regulations (Sokolov, 2023).

This method was introduced by Hirschman (1945) and later reinvented by Herfindahl (1950). It represents the sum of squared shares of each product in total exports, where HHI is the Hirschman Herfindahl Index, calculated as follows:

$$HHI_{ds}^1 = \sum_{m=1}^{nm_x} \left(\frac{x_{dm,s}^t}{x_{ds}^t} \right)^2 \quad 4.5$$

Where $X_{dm,s}^t$ is the exports of raw hides and skin, articles of leather, and footwear originating from Kenya (d) to all importing countries for a given year t; x_{ds}^t is

Kenya (d) exports and $\frac{X_{dm,s}^t}{X_{ds}^t}$ is the share of market (m) in total exports of Kenya (d) in the leather sector (s).

A high HHI score indicates that the country struggles to diversify its leather product exports. Consequently, the country's competitiveness in these exports is adversely affected by this situation (Statistics Canada, 2017). A low HHI score reflects the dispersal of exports across a greater number of markets, thereby reducing a country's dependency on specific markets and decreasing the risks linked to fluctuations and changes in these markets (Ampuero et. al. 2021).

The resulting index values range between 0 and 1; if the index value approaches 0, this signifies a strong export diversification of Kenya's leather products, indicating a low concentration ratio. Conversely, if the index value approaches 1, the export diversification of the country's leather products is very weak, that is, the concentration ratio. Notably, if the HHI score is below 0.15, the export concentration of leather products is low. If the HHI score falls between 0.15 and 0.25, the country's export concentrations are moderate, and finally, if the score exceeds 0.25, the export concentrations are high.

4.2.3 Export market penetration index

Further analysis was conducted using the Export Market Penetration Index (EMPI), an indicator that evaluates the amount to which a country's exports penetrate established markets. It measures the extent to which leather group of exports are absorbed by the global market. The index value obtained from this analysis indicates the strength of a region's export commodities in penetrating the international market. High penetration is achieved when the export share of the leather group product (that is raw hides and skins, articles of leather and footwear) is significant and there are numerous regional export destination countries. It is determined as the number of all the countries to whom Kenya exports a leather product divided by the number of all countries that report importing leather in a specific year from 1988 to 2023. Low export penetration may indicate the presence of trade restrictions by the importing countries that prevent enterprises from increasing their export markets.

The index is given by:

$$EMPI = \frac{n_x}{n_m} \quad 4.6$$

Where n_x is the number of all the countries to which Kenya exports raw hides and skins, articles of leather and footwear products, and n_m is the number of all the countries that import raw hides and skins, articles of leather, and footwear products from any other exporting countries globally. The resulting index values range between 0 to 1 where a value of one (1) indicates that Kenya exports to every country that imports leather and leather products.

4.3 Model Specification

To address the second objective regarding the impact of export levies on the competitiveness of leather products under all export levy regimes, the Ordinary Least Squares (OLS) approach was employed to examine the time effects of the imposition of export levies across the regimes – before the implementation of the export levy, and during the 20 per cent, 40 per cent, 80 per cent, and 50 per cent regimes – to determine whether the methods adopted by the export levy regimes were significant. This analysis served as the foundation for preliminary research and acted as the base model.

The estimated models were as follows:

$$RCA_t = \beta_0 + \beta_1 BeforeLevy_t + \beta_2 20percentLevy_t + \beta_3 40percentLevy_t + \beta_4 80percentLevy_t + \beta_5 50percentLevy_t + \beta_7 MVAt + \beta_8 REXRt + \varepsilon_t \quad 4.7$$

$$HHI_t = \beta_0 + \beta_1 BeforeLevy_t + \beta_2 20percentLevy_t + \beta_3 40percentLevy_t + \beta_4 80percentLevy_t + \beta_5 50percentLevy_t + \beta_7 MVAt + \beta_8 REXRt + \varepsilon_t \quad 4.8$$

$$EMPI_t = \beta_0 + \beta_1 BeforeLevy_t + \beta_2 20percentLevy_t + \beta_3 40percentLevy_t + \beta_4 80percentLevy_t + \beta_5 50percentLevy_t + \beta_7 MVAt + \beta_8 REXRt + \varepsilon_t \quad 4.9$$

To determine the sensitivity of the export levies across the regimes, Interrupted Time Series analysis (ITS) was applied. This methodology was suitable for comparing export competitiveness during the pre-levy period, the year the levy was imposed, and the post-levy period. This enabled the assessment of temporal changes – both immediate and long-term – in Kenya's export competitiveness, while also examining potential autocorrelation and seasonality. By incorporating control variables in the model, specifically the real exchange rate and manufacturing value added, potential confounding factors were accounted for, thereby isolating the impact of the policy change (export levies).

In modelling this, structural breaks were introduced during 2003-2006 (20% export levy), 2007-2011 (40% export levy), and 2012-2022 (80% export levy) to facilitate regression analysis at distinct time intervals. The year 2023 (50% export levy) was excluded from the ITS regression analysis due to data limitations. The study estimated three different models, which include the RCA index, HHI, and EMPI as outcome variables. These three variables served as proxies for the export competitiveness of leather and leather products. Based on the aforementioned, the general form of the econometric model is:

$$Y_t = \beta_0 + \beta_1 T_t + \beta_2 Levy_t + \beta_3 Levy_t Tt + \beta_4 PostLevy1_t + \beta_5 PostLevy2_t + \beta_6 PostLevy3_t + \beta_7 MVA_t + \beta_8 REXR_t + \varepsilon_t \quad 4.10$$

Considering this, Y_t represents each of the leather and leather products export competitiveness score at time t , β_0 stands for the constant intercept term, indicating the average leather and leather products export competitiveness before the export levy. T_t is the time trend variable, coded as 0 before the imposition of the levies and 1 after the imposition of export levies, with β_1 as its coefficient showing the underlying change in leather products export competitiveness over time before the imposition of the export levy. $Levy_t$ represents the export levy rate

at time t , coded as 0 before the levy and then as 20 per cent, 40 per cent, or 80 per cent, depending on the period, with β_2 as its coefficient showing the immediate impact of the levy on leather and leather export competitiveness, assuming a linear relationship. $Levy_t T_t$ is the interaction term between the time trend and levy rate, with β_3 as its coefficient capturing the differential effect of the levy on leather and leather export competitiveness at different points in time. $PostLevy1_t$, $PostLevy2_t$, and $PostLevy3_t$ are dummy variables coded as 1 after the first levy increase (20%), second levy increase (40%), and third levy increase (80%), respectively, and 0 otherwise. Since a 50 per cent export levy was introduced in 2023, the model did not account for this levy due to limited data available for analysis. Additionally, the control variables included in the model are MVA_t which is the manufacturing value added as a share of GDP and $REXR_t$ is the real exchange rate. β_4 , β_5 , and β_6 are the coefficients for the 20 per cent, 40 per cent, and 80 per cent export levies imposition, respectively. ε_t is the stochastic term.

Consequently, the specific regression models with three outcome variables are as follows:

$$RCA_t = \beta_0 + \beta_1 T_t + \beta_2 Levy_t + \beta_3 Levy_t T_t + \beta_4 PostLevy1_t + \beta_5 PostLevy2_t + \beta_6 PostLevy3_t + \beta_7 MVA_t + \beta_8 REXR_t + \varepsilon_t \quad 4.11$$

$$HHI_t = \beta_0 + \beta_1 T_t + \beta_2 Levy_t + \beta_3 Levy_t T_t + \beta_4 PostLevy1_t + \beta_5 PostLevy2_t + \beta_6 PostLevy3_t + \beta_7 MVA_t + \beta_8 REXR_t + \varepsilon_t \quad 4.12$$

$$EMPI_t = \beta_0 + \beta_1 T_t + \beta_2 Levy_t + \beta_3 Levy_t T_t + \beta_4 PostLevy1_t + \beta_5 PostLevy2_t + \beta_6 PostLevy3_t + \beta_7 MVA_t + \beta_8 REXR_t + \varepsilon_t \quad 4.13$$

4.4 Data and Data Sources

Secondary data on global and national exports of leather products was gathered from ITC, WITS, and UNCOMTRADE databases covering the period 1988 to 2023. The data obtained from these databases was then used in the study to calculate the RCA index, HHI, and the EMPI. The study employed 2-digit Harmonized Commodity Description and Coding Systems (HS 2) that grouped the leather products into three categories (that is, categories 41-raw hides and skins (other than fur skins and leather), 42-articles of leather; saddlery and harness; travel goods; handbags and similar containers; and 64-footwear, gaiters, and the like; parts of such articles). Data was further disaggregated to allow an in-depth analysis of leather products where the HS four-digit categorization code was also adopted.

5. Results and Discussion

The study aimed to respond to two main objectives. First, to assess the export competitiveness of various categories of leather products (raw hides and skins, articles of leather, and footwear) and second, to establish the impact of export levies at different rates (20%, 40%, 80%, and 50%). This analysis was conducted using the Revealed Comparative Advantage, HHI Market Diversification Index, and Export Market Penetration Index. These three indices were calculated, and a trend analysis was used to address the first objective. Additionally, the Ordinary Least Squares (OLS) approach was used as the base analysis supported by interrupted time series analysis to address the second objective, providing policymakers the insights into the impact of export levies imposed on raw hides and skins on the export competitiveness of leather and leather products in the different export levy regimes (before implementation of export levy, 20%, 40%, 80% and 50%).

5.1 Revealed Comparative Advantage (RCA)

Table 5.1 shows the average RCAs for the leather group of products that include HS 41 "raw hides and skins (other than furskins) and leather"; HS 42 "articles of leather; saddlery and harness; travel goods, handbags, and similar containers; articles"; and HS 64 "footwear, gaiters, and the like; parts of such articles" across the export levies of 20 per cent, 40 per cent, 80 per cent and 50 per cent, respectively. Before the introduction of the export levy, the average RCA for raw hides and skins was 0.932, 0.902 for articles of leather, and 0.614 for footwear. From 2003 to 2006 when a 20 per cent export levy was in place, the average RCA for raw hides and skins increased significantly to 3.595, while the RCA for articles of leather dropped to 0.112, and footwear rose to 1.264. With the implementation of 40 per cent of export levy between 2007 and 2011, the average RCA for raw hides and skins rose to 5.500, while that of articles of leather increased marginally to 0.157 and footwear remained steady at 1.264. From 2012 and 2022, following an 80 per cent export levy increment, the RCAs for raw hides and skins increased to 5.804, whereas the RCA for articles of leather reduced to 0.08 and that of footwear decreased to 1.086. With the reduction of the export levy to 50 per cent in 2023, the RCA for raw hides and skins reduced to 3.686 and 0.006 for articles of leather (see Annex 1 for more details).

This analysis reveals that despite the imposition of the export levy aimed at curbing the export of primary products, raw hides and skins have remained competitive in the international market. Conversely, articles of leather – which are mostly semi-finished – have remained uncompetitive both before the implementation of the export levy and across all export levy regimes (20%, 40%, 80%, and 50%). This demonstrates that exports of raw hides and skins remain competitive, contrary to the policy's objective of imposing export levies. This indicates the need for strategies to ensure these products are supplied to local industries.

The results for footwear, revealed before the imposition of the levy, indicate that these products were not competitive. However, with the introduction of the export levy at 20 per cent and 40 per cent, they became competitive, although they recorded a weak RCA. At 80 per cent, the highest level of the export levy, these

products' competitiveness began to decline, a trend evident even at the 50 per cent export levy. This demonstrates that the export levy on raw hides and skins has been effective; however, higher levies are counterproductive. Therefore, an optimal export levy of around 40 per cent should be considered, moving forward, to balance competitiveness and policy objectives.

Table 5.1: Average RCAs for raw hides and skins and leather products across export levy regimes (20%, 40%, 80% and 50%)

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Average RCA (1988-2002)-Before implementation of export levy	0.932	0.902	0.614
Average RCA (2003-2006) - 20% export levy	3.595	0.112	1.264
Average RCA (2007-2011) -40% export levy	5.500	0.157	1.264
Average RCA (2012-2022) - 80 % export levy	5.804	0.080	1.086
RCA for 2023 50% export levy	3.686	0.060	0.387

Source: International Trade Centre (ITC)

5.1.1 RCA of raw hides and skins

The Revealed Comparative Advantages (RCAs) for raw hides and skins other than furskins and leather (product category HS 41 under the 2-digit product classification) averaged 0.932, 3.595, 5.500, 5.804, and 3.686, respectively, across the different export levy regimes (before implementation of the export levy, 20% export levy, 40% export levy, 80% export levy and 50% export levy) as outlined in Table 5.1. This indicates a positive effect on the revealed comparative advantage of raw hides and skins with the implementation of export levies.

Under the four-digit product classification, tanned or crust hides and skins of goats or kids, pigs, reptiles, and other animals (product code '4106) have continuously had the highest RCA values as depicted by the average RCAs of 60.93, 90.13,

118.26 and 96.248 across the export levy regimes of 20 per cent, 40 per cent, 80 per cent and 50 per cent, respectively. This shows a continued strong comparative advantage in exporting tanned or dried hides and skins of goats or kids, pigs, reptiles, and other animals that are semi-finished products. This means that the country has specialized knowledge or resources for producing various types of hides and skins. The same can be said for product '4104 (tanned or crust hides and skins of bovine "incl. buffalo" or equine animals), and product '4105 (tanned or crust skins of sheep or lambs, without wool on, whether or not split, which also recorded an increasing RCAs over time as illustrated in Annex 3.

Product '4104 for tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, without hair, product '4105, representing tanned or crust skins of sheep or lambs, without wool on, whether or not split and product '4106 for tanned or crust hides and skins of goats or kids, pigs, reptiles and other animals demonstrate that for Kenya, tanned or crust hides and skins, which are semi-finished leather products, are competitively positioned product lines.

Conversely, raw hides and skins of bovine "incl. buffalo" or equine animals, fresh, or salted, dried, limed ('4101), raw skins of sheep or lambs, fresh, or salted, dried, limed, pickled or otherwise preserved ('4102) and other raw hides and skins, fresh, or salted, dried, limed, pickled or otherwise preserved, ('4103), while initially competitive under the first regime (20% export levy), have become weaker over time, as demonstrated in the subsequent export regimes of 40 per cent and 80 per cent (See Annex 3). This could be explained by increasing export levy charges, which indicate that the goal of limiting raw hides and skins exports was met.

Leather prepared after tanning or crusting "incl. parchment-dressed leather", of goats ('4113), chamois leather, incl. combination chamois leather (excl. glacé-tanned leather) ('4114) and composition leather with a basis of leather or leather fibre, in slabs, sheets or strip ('4115) are weakly positioned product lines and there is need to develop significant turnaround strategies to reverse the trend (See Annex 2 for detailed information)

5.1.2 RCA of articles of leather, saddlery and harness, travel goods, handbags, and similar containers, articles

The average RCA for articles of leather (product category HS 42) indicates that there is no comparative advantage across the different export levy regimes, as highlighted in Table 5.1. Before the implementation of the 20 per cent export levy, the RCA was 0.902, suggesting a slight comparative disadvantage. However, after the 20 per cent levy was imposed, the RCA dropped significantly to 0.112. When the export levy was raised to 40 per cent, the RCA averaged 0.157, but it fell again to 0.080 after the 80 per cent levy was applied. Similarly, following the implementation of the 50 per cent export levy, the RCA averaged 0.060, as highlighted in Table 5.1. This trend indicates that the articles of leather category consistently fails to achieve a comparative advantage under varying export levy conditions. Despite fluctuations, the RCAs remain below 1, indicating that Kenya lacks a competitive edge in exporting these products. The continuous decline in

RCA values after the imposition of higher export levies suggests that these policies have not created an environment conducive to enhancing the competitiveness of leather articles. Instead, the export levies appear to exacerbate the existing constraints, diminishing Kenya's ability to compete in the international market for these products.

Saddlery and harness for any animal, including traces, leads, knee pads, muzzles, saddle cloths ('4201), trunks, suitcases, vanity cases, executive cases, briefcases, school satchels, spectacle cases ('4202), articles of apparel and clothing accessories made of leather or composition leather excluding footwear ('4203), articles for technical use, of leather or composition leather ('4204), articles of leather or composition leather (excluding saddlery and harness bags; cases and articles) ('4205) and articles made from gut, goldbeater's skin, bladders or tendons (excluding silkworm gut, sterile catgut) ('4206) all recorded RCAs between 0 and 1, indicating no comparative advantage over the years. This means the country has no competitive advantage for these products. This shows that they are weakly positioned product lines for Kenya, necessitating critical turnaround strategies targeting them if the goal of value addition is to be achieved competitively (see Annex 3 for detailed information).

For product coded '4201, representing saddlery and harness for any animal, inclusive of traces, leads, knee pads, muzzles, and saddle cloths, comparative advantages have gradually improved over time, though the RCAs are still below 1. The same is illustrated for '4203, articles of apparel and clothing accessories of leather or composition leather (excluding footwear). Products coded '4202, denoting trunks, suitcases, vanity cases, executive cases, briefcases, school satchels, and spectacle cases, '4205, representing articles of leather or composition leather (excluding saddlery and harness bags, cases) and '4206, articles of gut, goldbeater's skin, bladders or tendons (excluding silkworm gut, sterile catgut) presented fluctuating RCA values, indicating a less consistent comparative advantage in exporting these products. Furthermore, '4204, articles for technical use made of leather, showed no comparative advantage, with RCA values hovering close to zero across most years.

5.1.3 RCA of footwear, gaiters, and the like; parts of such articles

Footwear, gaiters, and similar items, parts of such articles (product category HS 64), exhibited varied comparative advantages across different export levy regimes, as highlighted in Table 5.1. Before the introduction of the 20 per cent export levy, the average RCA was 0.614, indicating a comparative disadvantage. However, after the 20 per cent levy was imposed, the RCA increased to 1.264, suggesting a shift to a weak comparative advantage. Similarly, when the 40 per cent export levy was implemented, the RCA averaged 1.264, which then declined to 1.086 after the 80 per cent levy was applied, again indicating a weak comparative advantage. In 2023, when the 50 per cent export levy was implemented, the RCA averaged 0.387, as shown in Table 5.1. These figures demonstrate that while the imposition of export levies has generally enhanced the comparative advantage of footwear,

gaiters, and similar items, the advantage remains relatively weak. The RCAs, though consistently above 1 after the levies, indicate only a modest competitive edge in the international market. This suggests that while the levies may have had some positive impact on the competitiveness of these products, further strategies and policies are necessary to strengthen and sustain their comparative advantage.

Under the four-digit product classification, product code '6401,' which represents waterproof footwear with rubber or plastic outer soles and uppers, has exhibited the highest RCA values across the 20 per cent, 40 per cent, 80 per cent, and 50 per cent export levy regimes (average RCAs are 10.113, 22.560, 18.895, and 6.041 respectively). This indicates a sustained competitive advantage in exporting such footwear, suggesting that the country possesses specialized expertise or resources in this market. Product '6402, for footwear with outer soles and uppers of rubber or plastics (excluding waterproof footwear of heading), and product '6405', representing footwear with outer soles of rubber or plastics, with uppers other than rubber, plastics, or leather, also demonstrated a comparative advantage, although much lower (see Annex 4 for more detailed information).

Footwear with outer soles of rubber, plastics, leather or composition leather and uppers ('6403), footwear with outer soles of rubber, plastics, leather or composition leather and uppers ('6404), and parts of footwear, including uppers whether or not attached to soles other than outer soles; removable ('6406), routinely report lower RCA values, indicating a less competitive position in exporting these specific footwear categories. Overall, the results reveal a clear dominance in the export of waterproof footwear featuring rubber or plastic outer soles and uppers, suggesting that the country has a competitive advantage in this leather product. This illustrates that under category 64, product lines '6401, '6402, and '6405 are more competitive and require continued investment, whereas product lines '6403, '6404, and '6406 are weakly positioned and necessitate a turnaround strategy (see Annex 4 for detailed information).

5.2 Market Diversification Index

Table 5.2 presents the average market diversification index for the leather group of products that include HS 41 "raw hides and skins (other than furskins) and leather," HS 42 "articles of leather; saddlery and harness; travel goods, handbags, and similar containers; articles," and HS 64 "footwear, gaiters, and the like; parts of such articles" across the export levies of 20 per cent, 40 per cent, 80 per cent, and 50 per cent, respectively.

Before the introduction of the export levy in 2003, the average market diversification index for raw hides and skins was 0.246, diversifying into 21 markets. For articles of leather, it was 0.190, also diversifying into 21 markets. For footwear, it stood at 0.319, diversifying into 13 markets. This indicated a relatively concentrated market presence. Following the introduction of a 20 per cent export levy, the average market diversification index for raw hides and skins decreased to 0.158, even though the product diversified into more markets (39). For articles of leather, the average market diversification index slightly decreased

to 0.1623, while this product similarly diversified into more markets (33), and for footwear, the market diversification index fell to 0.141, with the number of markets diversified rising to 48.

An increase in the export levy to 40 per cent led to the average market diversification index for raw hides and skins slightly recovering to 0.183 across 25 markets, while the market diversification index for articles of leather further declined to 0.128 across 49 markets. The market diversification index for footwear improved to 0.278 across 43 markets. Following the implementation of an 80 per cent export levy, the average market diversification index for raw hides and skins rose to 0.217 across 25 markets. In contrast, the market diversification index for articles of leather fell to 0.106, despite the number of markets increasing to 62. The market diversification index for footwear increased to 0.385 across 55 markets. The reduction of the export levy to 50 per cent in 2023 further lowered the market diversification index to 0.30, diversifying exports to 23 markets for raw hides and skins (Table 5.2). This analysis reveals that despite the export levy aimed at curbing the export of primary products, raw hides and skins still managed to penetrate 39 markets after the implementation of a 20 per cent levy. However, increasing the export levy to 40, 80, and 50 per cent resulted in decreased market penetration, with the product reaching only 25, 25, and 23 markets, respectively. This indicates that the policy goal of reducing the export market for raw hides and skins was partially achieved, as evidenced by the decrease in the number of importing markets. Nonetheless, the product still maintained a significant presence in the international market.

For articles of leather, both before the introduction and after the implementation of the 20 per cent export levy, these products demonstrated moderate export concentration, with market diversification increasing from 21 to 33 markets. This trend of diversification continued, although at a slower pace, reaching 49 markets with a 40 per cent levy, 62 markets with an 80 per cent levy, and finally 58 markets with a 50 per cent levy. This indicates a strong international demand for these products, underscoring the need for strategies that promote innovation and the production of more semi-finished and finished leather products to capitalize on this demand.

Finally, concerning footwear, the results revealed that prior to the imposition of the export levy, these products were not competitive; despite having a high diversification index of 0.387, they penetrated only 14 markets. However, with the introduction of a 20 per cent and 40 per cent levy, footwear became more competitive, reaching 48 and 43 markets respectively, although they recorded only a moderate diversification index. At the 80 per cent levy, the number of markets penetrated decreased slightly to 50, despite a higher diversification index, indicating a decline in competitiveness. This suggests that apart from the export levy on raw hides and skins, it is crucial to balance this policy with other strategies to enhance the competitiveness of these products.

Table 5.2: Average market diversification index for leather group of products across export levy regimes (20%, 40%, 80%, and 50%)

	HS 41 Raw hides and skins (other than furskins) and leather		HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles		HS 64 Footwear, gaiters and the like; parts of such articles	
	HH Market Index	Number of Markets	HH Market Index	Number of Markets	HH Market Index	Number of Markets
Average HHI (1988-2002) - Before implementation of export levy	0.246	21	0.190	21	0.319	13
Average HHI (2003-2006) - 20% export levy	0.158	39	0.163	33	0.141	48
Average HHI (2007-2011) - 40% export levy	0.183	25	0.128	49	0.278	43
Average HHI (2012-2022) - 80% export levy	0.217	25	0.107	62	0.385	55
HHI after the 50% export levy implementation (2023)	0.303	23	0.085	58	0.309	50

Source: International Trade Centre (ITC)

5.2.1 Market diversification index for raw hides and skins

On raw hides and skins, the market diversification index fluctuated, with the average Herfindahl-Hirschman market index (HHI) recorded at 0.158, 0.183, 0.217, and 0.303, respectively, corresponding to export levies of 20 per cent, 40 per cent, 80 per cent, and 50 per cent, respectively. Before the introduction of the export levy, the HHI stood at 0.246, reflecting diversification into 21 markets. Following the implementation of the 50 per cent export levy in 2023, the HHI averaged 0.303. However, the subsequent increases in the export levy to 40 per cent and 80 per cent resulted in a reduced number of markets, averaging 25 markets and 23 markets, respectively, with a 50 per cent export levy. These trends, as illustrated in Table 5.2, indicate that while the initial introduction of a 20 per cent export levy significantly increased market diversification, higher levies at 40 and 80 per cent led to a reduction in the number of markets. This suggests

that while moderate levies can improve market reach, excessively high levies may inversely affect market diversification, possibly due to increased export costs and reduced competitiveness (see Annex 5 for more details).

Considering the four-digit product classification, when a 20 per cent export levy charge was in force, the market concentration for raw hides and skins of bovine "incl. buffalo" or equine animals, fresh, or salted, dried, and limed '4101, showed a declining trend with fluctuating HHI values. In contrast, the number of markets generally remained stable, peaking in 2006. Following the imposition of a 40 per cent export levy from 2007 to 2011, market concentration for product categories such as other raw hides and skins, fresh, or salted, dried, limed, pickled, or otherwise preserved '4103 and tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, without hair on '4104 exhibited fluctuations, reflecting diverse levels of geographical concentration. When the 80 per cent export levy was implemented between 2012 and 2022, the indices for tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, '4104 and tanned or crust skins of sheep or lambs, without wool on, '4105 continued to show fluctuations. A notable trend was the diversification into more markets for certain product categories, particularly in the later years, despite varying levels of concentration. The data suggests an overall trend towards increased market penetration and diversification, especially in the later years, despite periodic fluctuations in market concentration (see Annex 6 for more details).

Table 5.3 presents the top ten ranking of importing countries for raw hides and skins, clearly illustrating that China has experienced significant growth over the years. Initially ranked 27th among importing nations in 2002, before the introduction of the export levy, China improved to fourth position when the levy was set at 20 and 40 per cent in 2006 and 2011, respectively. It then ascended to the top position in 2022 and maintained that rank in 2023. Italy has remained stable, holding second position from 2006 to 2023, except in 2002 and 2011 when it was the first. Nigeria, Ethiopia, and Ghana are among the African countries that have demonstrated substantial growth, moving from 27th ranking in 2002 (before the export levy was imposed) to fourth, eighth, sixth, and tenth positions, respectively, by 2023 (50% export levy) (see Annex 7 for more details).

Table 5-3: Top ten rank of importing countries in exported value for raw hides and skins

Importers	Ex-ported value 2002	Rank 2002 (Before export levy)	Export-ed value 2006	Rank 2006 (20% ex-port levy)	Export-ed value 2011	Rank 2011 (40% ex-port levy)	Export-ed value 2022	Rank 2022 (80% ex-port levy)	Export-ed value 2023	Rank 2023 (50% export levy)
China	-	27		4	6,982	5	5,583	1	6,021	1
Italy	2,742	1		2	17,932	1	5,507	2	3,271	2
Indonesia	88	11		8	3,493	6	2,068	4	2,733	3
Nigeria	-	27		14	874	11	2,134	3	2,256	4
Pakistan	766	5	3,223	5	3,007	7	1,604	5	1,722	5
India	1,146	4	5,581	3	9,148	4	735	7	566	6
Bangladesh	-	27	19	19	-	34	1,108	6	393	7
Ethiopia	-	27	-	31	-	34	-	23	341	8
Zimbabwe	40	16	2	29	-	34	-	23	157	9
Ghana	-	27	-	31	2	29	25	16	134	10

Source: International Trade Centre (ITC)

5.2.2 Market diversification index for articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles

For articles of leather, the market diversification index also fluctuated, with the average HHI recorded at 0.162, 0.128, and 0.106 with export levies imposed at 20 per cent, 40 per cent, 50 per cent, and 80 per cent, respectively. Before the introduction of the export levy, the HHI stood at 0.190, with diversification into 23 markets. Following the implementation of the 20 per cent export levy, market diversification expanded significantly, as the HHI decreased to 0.122 and the number of markets increased to 33. With a 50 per cent export levy, the HHI averaged 0.085. These trends, as shown in Table 5.4, indicate that the introduction of the 20 per cent export levy significantly improved market diversification for articles of leather. Even with higher levies of 40 and 80 per cent, the number of markets continued to increase, suggesting that despite the increased costs, global demand for these products remained strong, leading to a broader market reach. This consistent increase in market diversification under higher levies underscores the resilience and competitiveness of Kenya's leather products in the international market (see Annex 5 for more details).

Under the four-digit product classification, trunks; suits; cameras; jewellery; cutlery cases; travel bags; tool bags; and similar items; wholly or mainly covered by leather, composition leather, plastic sheeting, textile materials, vulcanized fibre, and paperboard (4202), articles of apparel and clothing accessories made of leather or composition leather (4203), leather or composition leather articles (4205), and tanned or crust hides and skins of bovine (including buffalo) or equine animals, without hair, whether or not split, but not further prepared (4104) are among the products that have diversified into more markets.

Considering the markets, Italy experienced significant improvement, starting with a value of US\$2,000 in 2002, before the imposition of the levy. It ranked 11th and achieved the top rank by 2022 and 2023, with recorded export values of US\$429,000 and US\$349,000, respectively. The Democratic Republic of the Congo (DRC) has demonstrated a strong performance over the years, ranking second in 2023, except for 2022 when it ranked 38th. Ethiopia showed gradual improvement, reaching third rank in 2023 with an export value of US\$225,000. The United States of America exhibited a varied but generally strong performance, ranking first in 2011 and second in 2022, with export values of US\$244,000 and US\$360,000, respectively. However, it fell to fourth position in 2023, with a value of US\$171,000. Rwanda demonstrated consistency, ranking fifth in both 2022 and 2023, with export values of US\$145,000 and US\$137,000, respectively. The United Kingdom maintained high ranks over the years, achieving its highest rank of second in 2006 and its lowest rank of sixth in 2023 (see Annex 8 for more details).

Table 5.4: Top ten rank of importing countries in exported value for articles of leather

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Italy	2	11	1	23	26	13	429	1	349	1
Democratic Republic of the Congo	0	17	401	1	51	8	1	38	254	2
Ethiopia	0	17	2	20	6	25	4	29	225	3
United States of America	17	7	92	4	244	1	360	2	171	4
Rwanda	125	2	4	16	43	9	145	5	137	5
United Kingdom	12	8	188	2	204	5	152	4	133	6
United Republic of Tanzania	358	1	158	3	203	6	49	11	90	7
South Sudan	0	17	0	31	0	37	94	7	79	8
Zimbabwe	0	17	0	31	1	30	0	45	78	9
Uganda	87	3	55	7	235	2	30	13	52	10

Source: International Trade Centre (ITC)

5.2.3 Market diversification index for footwear, gaiters and the like and parts of such articles

For footwear, gaiters, and the like, the market diversification index fluctuated, with the average HHI recorded at 0.141, 0.278, and 0.385 for export levies imposed at 20 per cent, 40 per cent, 80 per cent, and 50 per cent, respectively. Before the imposition of the export levy in 2003, these products were diversified across 14 markets, with an average HHI of 0.387. Following the implementation of the 20 per cent export levy, there was a notable expansion in market diversification to 48 markets, and the HHI decreased to 0.310. However, the subsequent increase in the export levy to 40 per cent resulted in a slight rise in the HHI to 0.360, coupled with a reduction in the number of markets to 43. With a 50 per cent export levy, the HHI averaged 0.309 while penetrating 50 markets, as highlighted in Table 5.5. These trends suggest that while the initial introduction of a 20 per cent export levy significantly increased market diversification for footwear, the effects of higher levies at 40 and 80 per cent exhibited greater variability. The number of diversified markets decreased slightly with the 40 per cent levy and then increased again under the 80 per cent levy. This suggests that while moderate levies can enhance market reach, excessively high levies may lead to fluctuations in market diversification, potentially due to varying degrees of competitiveness and cost impacts. Despite these fluctuations, the overall trend indicates a relatively stable market diversification for footwear products under different levy regimes (see Annex 6 for more details).

Under the four-digit product classification, footwear with outer soles made of rubber, plastics, leather, or composition leather and uppers of leather (6403); footwear waterproof, with outer soles and uppers of rubber or plastics (where uppers are not fixed to the sole nor assembled by stitch, rivet, nail, screw, plug, or similar means) (6402); footwear with outer soles made of rubber, plastics, leather, or composition leather and uppers of textile materials (6404); and other footwear in chapter 64 (6405) are among the products that have successfully diversified into more markets.

Table 5.5 further illustrates the top-ranking importing countries for footwear, gaiters, and the like, parts of such articles across the export levy regimes (before 20%, 40%, 80% and currently 50% export levy) in different markets for Kenya. The East African Community (EAC) countries, namely Uganda, Rwanda, Tanzania, Burundi, and the Democratic Republic of the Congo (DRC), have consistently held top positions, ranking first, second, third, fourth, and sixth, respectively. Countries such as South Sudan initially ranked 24th, 42nd, and 54th in 2002, 2006, and 2011, respectively. However, it has recently improved to fifth position in 2023 (see Annex 10 for more details).

Table 5-5: Top ten rank of importing countries in exported value for footwear

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Uganda	956	2	8,373	1	10,507	1	9,950	1	10,007	1
Rwanda	232	4	2,401	4	5,491	4	8,587	2	7,378	2
United Republic of Tanzania	1,193	1	5,483	3	10,026	2	5,368	3	3,158	3
Burundi	-	24	714	9	590	8	946	4	525	4
South Sudan	-	24	-	42	-	54	8	6	23	5
Democratic Republic of the Congo	-	24	7,094	2	7,156	3	12	5	5	6
Czech Republic	-	24	-	42	-	54	-	10	1	7
Somalia	100	7	922	8	13	25	1	8	1	7
Afghanistan	-	24	-	42	-	54	-	10	-	9
Angola	-	24	-	42	12	29	-	10	-	9

Source: International Trade Centre (ITC)

5.3 Export Market Penetration Index

Table 5.6 shows the average Export Market Penetration Index (EMPI) for the leather group of products that include HS 41 "raw hides and skins (other than furskins) and leather, HS 42 "articles of leather; saddlery and harness; travel goods, handbags, and similar containers; articles," and HS 64 "footwear, gaiters, and the like; parts of such articles" across the export levies of 20 per cent, 40 per cent, 80 per cent and 50 per cent, respectively.

Before the introduction of the export levy, the average EMPI for all three product categories stood at 1.680, indicating moderate export market penetration. Following the introduction of a 20 per cent export levy, the EMPI increased to 1.988 for raw hides and skins and to 2.000 for both articles of leather and footwear, demonstrating an initial positive effect on export market penetration. This trend persisted with the 40 per cent export levy, as the EMPI rose to 2.244 for raw hides and skins, 2.258 for articles of leather, and 2.238 for footwear, indicating further improvement in market access due to higher levies. Notably, an increase to 80 per cent export levy resulted in a surge in the EMPI to 3.325 for raw hides and skins, 5.375 for articles of leather, and 2.990 for footwear. Finally, the reduction to a 50 per cent export levy showed a further increase in EMPI to 3.480 for raw hides and skins, 6.300 for articles of leather, and 4.100 for footwear.

The increase, particularly for leather articles, suggests that the highest levy level significantly enhanced market penetration, likely due to improvements in product quality, which foster competitiveness. Overall, the results indicate that progressively higher export levies have been linked to increased market penetration, with the most substantial gains seen in leather articles. This implies that higher export levies may stimulate local value addition and quality enhancements, leading to greater competitiveness in international markets.

Table 5.6: Export EMPI for hides and skin, articles of leather, and footwear across export levy regimes (20%, 40%, 80% and 50%)

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Average HHI (1988-2002)-Before implementation of export levy	1.680	1.680	1.680

Average HHI (2003-2006) - 20% export levy	1.988	2.000	2.000
Average HHI (2007-2011) - 40% export levy	2.244	2.258	2.238
Average HHI (2012-2022) - 80% export levy	3.325	5.375	2.990
HHI after the 50% export levy implementation (2023)	3.480	6.300	4.100

Source: International Trade Centre (ITC)

5.3.1 Export market penetration index for raw hides and skin

For raw hides and skins, the export market penetration index increased, with the average penetration index recorded at 1.988, 2.244, and 3.325, corresponding to export levies of 20 per cent, 40 per cent, 50 per cent, and 80 per cent, respectively, as highlighted in Table 5.2. Before the implementation of the export levies, the index averaged 1.694. Following the introduction of the 80 per cent export levy, the index rose to an average of 3.48 (see Table 5.6). These findings suggest that as the export levy increases, the export market penetration index – an indicator of market competitiveness – also increases, making exports more competitive in international markets. The progressively higher export levies appear to enhance the market penetration of raw hides, skins, and leather, implying that such levies may incentivize improvements in product quality or other competitive factors that facilitate better access to international markets. Overall, higher export levies seem to positively affect the market penetration of these products, boosting their competitiveness and presence in global trade (see Annex 10 for more details).

5.3.2 Export market penetration index for articles of leather; saddlery and harness; travel goods, handbags and similar containers; and articles

For articles of leather, before the introduction of the export levy, the export market penetration index stood at 1.680. Following the imposition of a 20 per cent export levy, the average export market penetration index rose to 2.000, indicating a moderate level of market penetration. An increase in the export levy to 40 per cent led to a further rise in the average export market penetration index to 2.258, suggesting improved market penetration. The most significant change occurred when the export levy was increased to 80 per cent. During this period, the average export market penetration index surged to 5.375, with the export market penetration index in 2022 reaching a peak of 6.3 in 2023 after a reduction of the export levy to 50 per cent. The trend suggests that as export levies increase, the competitiveness of these leather articles in international markets also rises,

resulting in higher market penetration. The data indicates that progressively higher export levies have been associated with increased market penetration, enhancing the presence and competitiveness of Kenyan leather articles in global trade (see Annex 10 for more details).

5.3.3 Export market penetration index for footwear, gaiters and the like; parts of such articles

Regarding footwear, gaiters, and the like, it is demonstrated that before the introduction of the export levy, the export market penetration index averaged 1.680. During the period from 2003 to 2006, following the implementation of a 20 per cent export levy, the average export market penetration index increased to 2.000, indicating a moderate level of market penetration. Between 2007 and 2011, when the export levy rose to 40 per cent, the average export market penetration index increased further to 2.238, suggesting improved market penetration. Lastly, from 2012 to 2022, as the export levy further increased to 80 per cent, the average export market penetration index grew significantly to 2.99. Notably, the market penetration index peaked at 5.99 in 2022 and 4.1 in 2023 with the reduction of the export levy to 50 per cent, reflecting substantial market penetration during this period. Similarly, as export levies increased, the export market penetration index also rose, demonstrating that higher levies contribute to greater market presence and competitiveness for these products (see Annex 10 for more details).

5.4 Effect of Export Levies Across the Export Levy Regimes

This section presents regression analysis to determine the effects of export levies across the four regimes (before levy; 20%, 40%, 80%, and 50% export levy) on export competitiveness, focusing on the RCA, HHI, and the EMPI across the three leather products under consideration.

(a) Revealed comparative advantage

Table 5.7 presents the results of the RCA index for raw hides and skins, articles of leather, and footwear under various export levy regimes (before levy, 20%, 40%, 80%, and 50%). Raw hides and skins show significant positive effects on RCA. Before the levy, the coefficient (4.278) was significant at all levels with a t-value of 8.28, indicating a strong RCA. The introduction of a 20 per cent export levy in 2003 had a significant positive effect (coefficient 1.440, t-value of 2.35). An increase to a 40 per cent levy ensured the continuation of this trend (coefficient 1.955, t-value of 2.65). The 80 per cent levy recorded a more substantial positive effect (coefficient 4.506, highly significant with a t-value of 6.91).

Articles of leather demonstrate consistent, significant negative effects across all export levy regimes (before levy, 20 per cent, 40 per cent, 80 per cent, and finally 50 per cent). Before the levy, the recorded coefficient was -0.799 (highly significant, t-value of -4.05). The 20 per cent export levy, introduced in 2003, further decreases RCA significantly (coefficient -1.690, t-value of -6.74), as does

the 40 per cent export levy (coefficient -1.699, t-value of -5.61) imposed in 2007. An additional increment in the export levy to 80 per cent had the most substantial negative impact (coefficient -2.139, highly significant with a t-value of -8.00). Lastly, the 50 per cent levy also revealed a significant negative effect (coefficient -2.143, t-value of -4.66). Footwear presents varied results, with only the period before the levy recording a coefficient of 0.515, which was significant at all levels with a t-value of 4.19, indicating a positive comparative advantage.

The control variables MGDP and Real Exchange Rate (REER) generally exhibited positive and significant effects on RCA. MGDP demonstrated strong positive significance across all product categories (coefficients 0.850, 0.176, and 0.135 with respective t-values of 5.85, 2.95, and 3.34). REER also showed positive and significant impacts (coefficients 0.0247, 0.0303, and 0.0131 with respective t-values of 2.15, 6.42, and 4.11).

Table 5.7: OLS regression results for RCA on raw hides and skins and leather products across export levy regimes

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Before export levy	4.278*** (8.28)	-0.799*** (-4.05)	0.515*** (4.19)
20% export levy	1.440* (2.35)	-1.690*** (-6.74)	0.161 (0.94)
40% export levy	1.955* (2.65)	-1.699*** (-5.61)	0.182 (0.89)
80% export levy	4.506*** (6.91)	-2.139*** (-8.00)	-0.0403 (-0.22)
50% export levy	0.940 (0.84)	-2.143*** (-4.66)	-0.854* (-2.74)
MGDP	0.850*** (5.85)	0.176** (2.95)	0.135** (3.34)
REER	0.0247* (2.15)	0.0303*** (6.42)	0.0131*** (4.11)
N	36	36	36

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Market diversification index

Table 5.8 presents the results of the market diversification index for raw hides and skins, articles of leather, and footwear under various export levy regimes (before the levy, 20%, 40%, 80%, and 50%). Raw hides and skins exhibited a significant negative impact on market diversification at different levels (before the levy, 20 per cent, and 40 per cent). Before the levy, the recorded coefficient was -0.0441, which is significant with a t-value of -2.08, indicating a slight decline in market diversification. The introduction of a 20 per cent levy in 2003 further significantly decreased market diversification (coefficient -0.117, t-value of -3.14). Likewise, an increase to a 40 per cent levy in 2007 also had a significant negative effect (coefficient -0.106, t-value of -2.36).

Articles of leather also demonstrated negative effects on market diversification. The coefficient before the levy was -0.0687 (highly significant t-value of -3.14). The introduction of a 40 per cent levy in 2007 revealed a significant negative effect (coefficient -0.106, t-value of -2.14). An increase to an 80 per cent levy in 2011 also displayed a significant negative impact (coefficient -0.0907, t-value of -2.08). For footwear, this product category showed mixed results, with a significant effect only being observed at the 20 per cent levy (coefficient -0.241, t-value of -2.29). Lastly, the control variables MGDP and REER had positive but non-significant coefficients across all product categories, indicating no substantial impact on market diversification.

Table 5.8: OLS regression results for market diversification on leather group of products across export levy regimes

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Before export levy	-0.0441* (-2.08)	-0.0687** (-3.14)	-0.00943 (-0.16)
20% export levy	-0.117** (-3.14)	-0.0413 (-1.01)	-0.241* (-2.29)
40% export levy	-0.106* (-2.36)	-0.106* (-2.14)	-0.106 (-0.84)
80% export levy	-0.0662 (-1.67)	-0.0907* (-2.08)	-0.0255 (-0.23)
50% export levy	0.00982 (0.14)	-0.127 (-1.69)	-0.117 (-0.61)
MGDP	0.0129 (1.46)	0.00906 (0.93)	0.0277 (1.11)
REER	0.000917 (1.31)	0.000346 (0.45)	0.00211 (1.07)
N	36	36	36

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

(c) Export market penetration index

Table 5.9 presents the results of the market penetration index for raw hides and skins, articles of leather, and footwear under varying export levy regimes. Raw hides and skins displayed significant positive coefficients for all different export levy regimes, including before the export levy, except at the 20 per cent level. Before the levy, the coefficient was significant at all levels (1.126) with a t-value of (6.18), indicating robust market penetration. This was followed by a significant improvement in market penetration with the introduction of a 40 per cent levy in 2007. Under this export levy regime, the coefficient, significant at the 5.0 per cent level, was recorded at 0.680 with a t-value of 3.13. A further increase in the export levy to 80 per cent in 2011 recorded a coefficient of 1.786, which was significant at all levels with a t-value of 9.32. Finally, at the 50 per cent levy imposed in 2023, the coefficient was 1.936, significant at all levels with a t-value of 5.87.

Articles of leather also exhibited a significant effect on market penetration before the levy, as well as at the 80 per cent and 50 per cent export levy regimes. Before the levy, the coefficient was 2.378 (significant at the 5% level with a t-value of 3.42). However, at an 80 per cent levy, the coefficient was 3.354, which was significant at the 5 per cent level with a t-value of 2.80. Ultimately, at the 50 per cent levy, the coefficient was 4.380 (significant with a t-value of 2.12), demonstrating significant positive effects on market penetration. Finally, footwear exhibits a significant positive coefficient before the levy (coefficient 1.026, highly significant, t-value of 4.05). The introduction of the 80 per cent levy (coefficient 0.987, significant with a t-value of 2.32) displays varied impacts. The 50 per cent levy shows a significant positive effect (coefficient 2.450, significant with a t-value of 3.34).

Table 5.9: OLS regression results for EMPI on hides and skins, articles of leather and footwear across regimes

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Before export levy	1.126*** (6.18)	2.378** (3.42)	1.026*** (4.05)
20% export levy	0.353 (1.96)	0.105 (0.09)	0.386 (0.97)
40% export levy	0.680** (3.13)	0.386 (0.28)	0.760 (1.57)
80% export levy	1.786*** (9.32)	3.354** (2.80)	0.987* (2.32)
50% export levy	1.936*** (5.87)	4.380* (2.12)	2.450** (3.34)

MGDP	0.0128 (0.30)	0.101 (0.38)	-0.146 (-1.54)
REER	-0.00447 (-1.32)	0.00425 (0.20)	0.00424 (0.56)
N	36	36	36

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.5 Interrupted Time Series Analysis Regression Results

5.5.1 Revealed comparative advantage regression results

Table 5.10 illustrates the effects of export levies on the RCA as a metric of export competitiveness for three categories of leather products: raw hides and skins (HS 41), articles of leather (HS 42), and footwear (HS 64). For raw hides and skins (model 1), the RCA demonstrates a significant positive trend over time, with a coefficient of 0.412 at the five per cent significance level. The 2003 export levy intervention of 20 per cent had no significant immediate impact or change in trend. Similarly, while the 2007 export levy intervention of 40 per cent showed positive signs, it did not have a significant effect. In contrast, the rise to an 80 per cent export levy in 2011 resulted in a considerable positive impact on RCA, with a coefficient of 4.108, significant at all levels. However, this was followed by a significant negative trend post-2011, as indicated by a coefficient of -0.441 at the 5.0 per cent level. Other variables, such as manufacturing value added as a percentage of GDP and the exchange rate, did not have a significant effect.

In the case of articles of leather (model 2), there is no significant overall trend in RCA, as reflected by a positive coefficient of 0.123. The introduction of a 20 per cent export levy in 2003 resulted in a significant immediate negative impact, evidenced by a coefficient of -1.884. This was followed by a declining trend post-2003, with a significant coefficient of -0.221. The subsequent 40 and 80 per cent export levies did not indicate significant immediate impacts or changes in trend. Like model 1, manufacturing value added as a percentage of GDP and the exchange rate are not significant predictors.

Finally, for footwear and gaiters (model 3), there is no significant overall trend in RCA, as demonstrated by a coefficient of 0.00561. The introduction of a 20 per cent export levy in 2003 had no significant impact. However, the increase to a 40 per cent export levy in 2007 resulted in a significant immediate negative effect on RCA, with a coefficient of -0.333. Although the 2011 imposition of the 40 per cent export levy did not show a significant immediate impact, it led to a significant negative trend post-2011, with a coefficient of -0.143, significant at all levels. Like the other models, manufacturing value added as a percentage of GDP and the exchange rate do not significantly affect RCA.

Table 5.10: Interrupted time series analysis results on RCA

	Model (1)	Model (2)	Model (3)
	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
_t	0.412** (3.38)	0.123 (1.14)	0.00561 (0.07)
_x2003	-0.193 (-0.40)	-1.884** (-3.02)	0.107 (0.24)
_x_t2003	-0.00569 (-0.03)	-0.221* (-2.17)	0.0804 (0.96)
_x2007	0.0856 (0.23)	0.173 (1.18)	-0.333* (-2.67)
_x_t2007	-0.344 (-1.35)	0.112 (0.81)	-0.0176 (-0.18)
_x2011	4.108*** (5.61)	-0.151 (-0.94)	-0.165 (-1.04)
_x_t2011	-0.441* (-2.73)	0.00962 (0.18)	-0.143*** (-4.30)
Manufacturing Value Added as a percentage of GDP	-0.00528 (-0.04)	0.112 (0.99)	0.0425 (0.52)
Exchange rate	-0.0424 (-1.67)	0.00708 (0.43)	0.0138 (1.06)
_cons	0.270 (0.15)	-1.445 (-1.17)	-0.554 (-0.61)
N	35	35	35

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5.1 further provides a visual representation of the impact of the shocks resulting from the imposition of export levies on raw hides and skins. The graphical presentations indicate that prior to the imposition of a 20 per cent export levy in 2003, the RCAs for raw hides and skins increased gradually. This trend continued until a 40 per cent export levy was imposed in 2007, where a slight positive effect was recorded. However, under the 40 per cent export levy regime, the trend increased at a minimal rate, followed by a decreasing trend until 2011, when an 80 per cent export levy resulted in a positive effect. This was subsequently followed by a decreasing trend until 2022. This demonstrates that despite the imposition of the export levies, the RCAs for raw hides and skins continued to improve over time until the 80 per cent export levy was introduced.

Figure 5.1: RCA for raw hides and skins

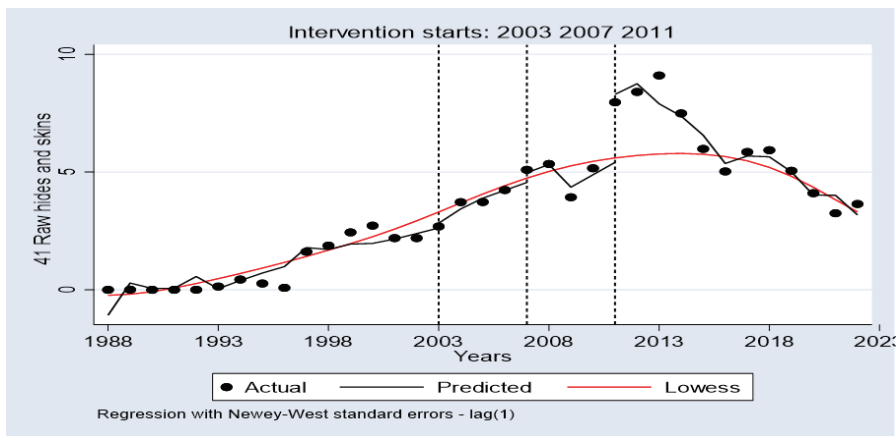


Figure 5.2 illustrates that prior to the imposition of a 20 per cent export levy in 2003, the RCAs for articles of leather displayed a gradual increase until 1998. This was followed by a decline that commenced in 2003 when the export levy was introduced after maintaining a steady level for some time. The imposition of the 20 per cent levy resulted in a significant negative impact, after which a moderate continuous trend was observed. An increase to a 40 per cent export levy in 2007 caused a slight positive effect, with the trend remaining stable following the introduction of the 80 per cent export levy in 2011. This demonstrates that, despite the implementation of the export levy on raw hides and skins, the objective of generating more local supplies for the production of value-added leather products has not been achieved. The government could adopt measures to further promote the development of more value-added leather products.

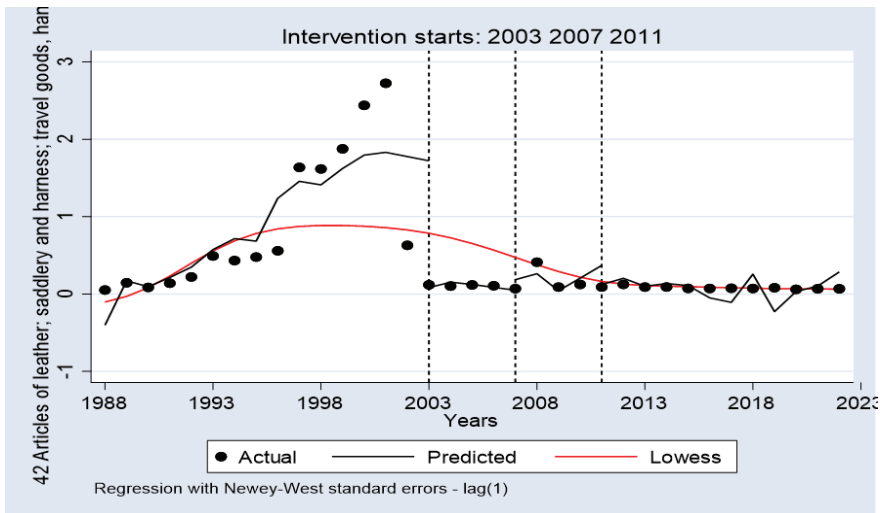
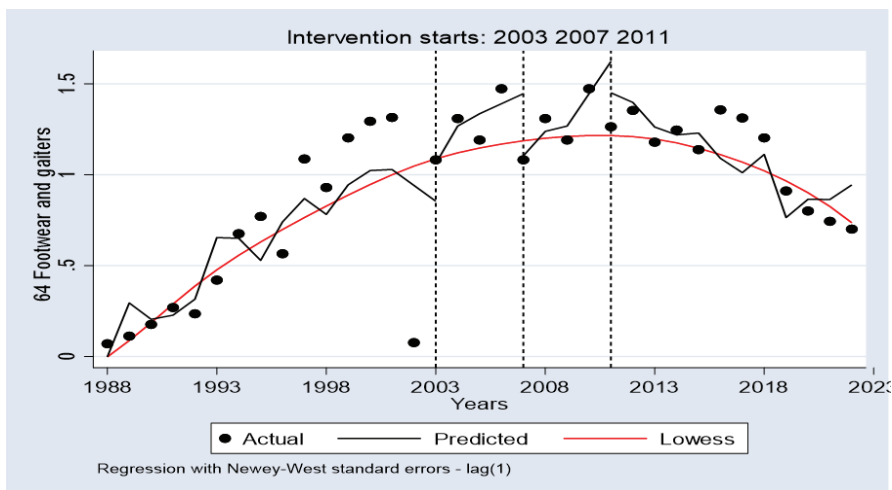
Figure 5.2: RCA for articles of leather

Figure 5.3 illustrates that prior to the implementation of a 20 per cent export levy in 2003, the RCA increased gradually. The introduction of the 20 per cent export levy in 2003 had a slight negative impact. Following this, a positive trend in the RCA was observed, albeit at a diminishing rate, until 2007, when a 40 per cent export levy was introduced. This measure significantly affected the trend negatively, although it improved slightly before gradually declining once more after the export levy was raised to 80 per cent in 2011, resulting in another slight negative impact. This illustrates that an excessively high levy does not necessarily facilitate value addition, hence the need for strategic adjustments to export levies on raw hides and skins to optimal levels (between 40% to 80%). This is crucial for sustaining economic growth and enhancing the global competitiveness of footwear and gaiters.

Figure 5.3: RCA for footwear and gaiters

5.5.2 Market diversification regression results

The analysis presented in Table 5.11 examines the effects of export levies on market diversification as an indicator of export competitiveness across three leather product categories: raw hides and skins (HS 41), articles of leather (HS 42), and footwear (HS 64). For raw hides and skins (model 4), no significant overall trend or immediate impacts from the imposition of 20, 40, and 80 per cent export levy interventions were observed. Similarly, other factors such as manufacturing value added as a percentage of GDP and the exchange rate did not significantly influence export market diversification for this category.

In contrast, articles of leather (model 5) demonstrated significant positive effects from the introduction of a 40 per cent export levy in 2007 and an 80 per cent export levy in 2011. The 2007 intervention led to a highly significant immediate positive impact on export market diversification, with a coefficient of 0.0672 ($p < 0.001$). This positive effect persisted with the 2011 intervention, which also resulted in a significant immediate positive impact, as indicated by a coefficient of 0.0544 ($p < 0.05$). Additionally, the post-2011 trend showed a significant positive change, with a coefficient of 0.0247 ($p < 0.05$). Despite these impactful interventions, manufacturing value added as a percentage of GDP and the exchange rate did not significantly affect export market diversification for articles of leather.

Finally, for footwear (model 6), the 20 per cent export levy imposition in 2007 had a significant immediate positive impact on export market diversification with a coefficient of 0.164 ($p < 0.05$). However, the introduction of the 20 and 40 per cent export levies in 2003 and 2011, and other factors such as manufacturing value added as a percentage of GDP and the exchange rate, did not show significant effects.

Table 5.11: Interrupted time series analysis results on export market diversification

	Model (4)	Model (5)	Model (6)
	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
_t	0.00882 (0.52)	-0.00356 (-0.29)	0.00335 (0.10)
_x2003	-0.107 (-1.65)	0.0141 (0.37)	-0.118 (-1.04)
_x_t2003	-0.0371 (-1.20)	-0.0303 (-1.31)	-0.0761 (-1.60)
_x2007	0.0622 (1.94)	0.0672*** (3.91)	0.164* (2.25)

_x_t2007	0.0389 (1.20)	0.0102 (0.32)	0.119 (1.43)
_x2011	0.0343 (1.25)	0.0544* (2.15)	0.00699 (0.06)
_x_t2011	-0.00557 (-0.90)	0.0247* (2.62)	0.000907 (0.03)
Manufacturing Value Added as a percentage of GDP	0.0144 (0.91)	0.0167 (1.56)	0.0741 (1.29)
Exchange rate	-0.000815 (-0.28)	0.00104 (0.35)	-0.00392 (-0.61)
_cons	0.0809 (0.47)	-0.00581 (-0.08)	-0.174 (-0.27)
N	35	35	33

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

A visual presentation of market diversification for raw hides and skins is illustrated in Figure 5.4. Prior to the imposition of the export levy in 2003, there were more exports of raw hides and skins until that year, when a 20 per cent export levy caused a significant decline in the export of these products. However, when a 40 per cent export levy was imposed in 2007, the decline in exports of raw hides and skins was minor following a positive effect. Finally, with the imposition of an 80 per cent levy, there was a notable positive effect, followed by a decline in the trend for raw hides and skins. This suggests that despite the higher levy, there remained resilience and competitiveness in the export of raw hides and skins, indicating a market demand for these products.

Figure 5.4: Market diversification for raw hides and skin

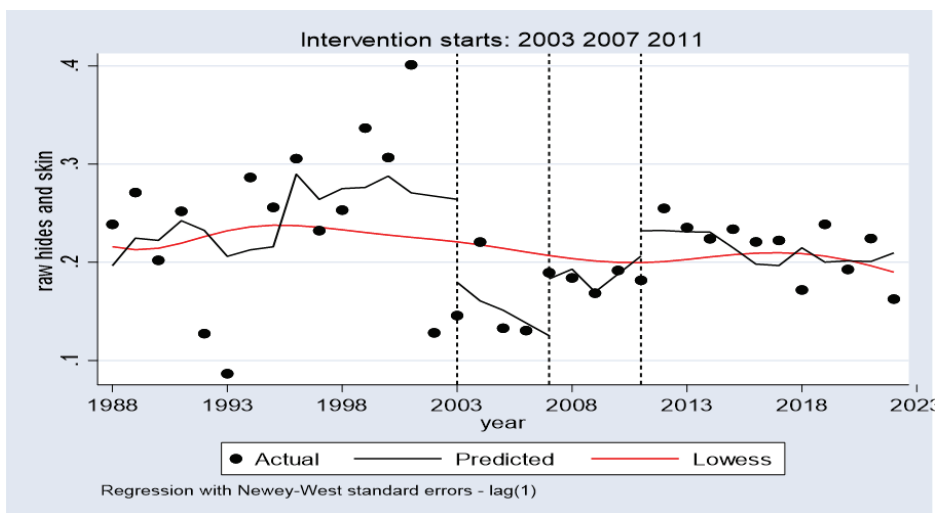
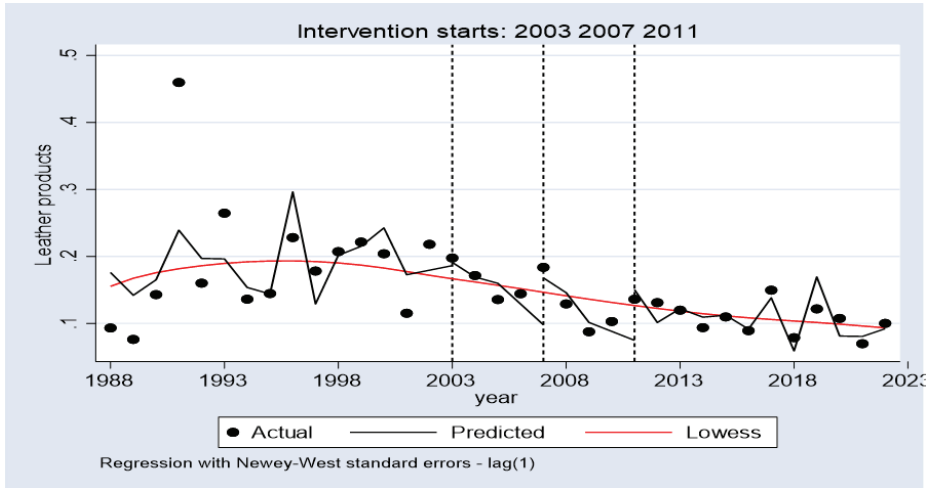
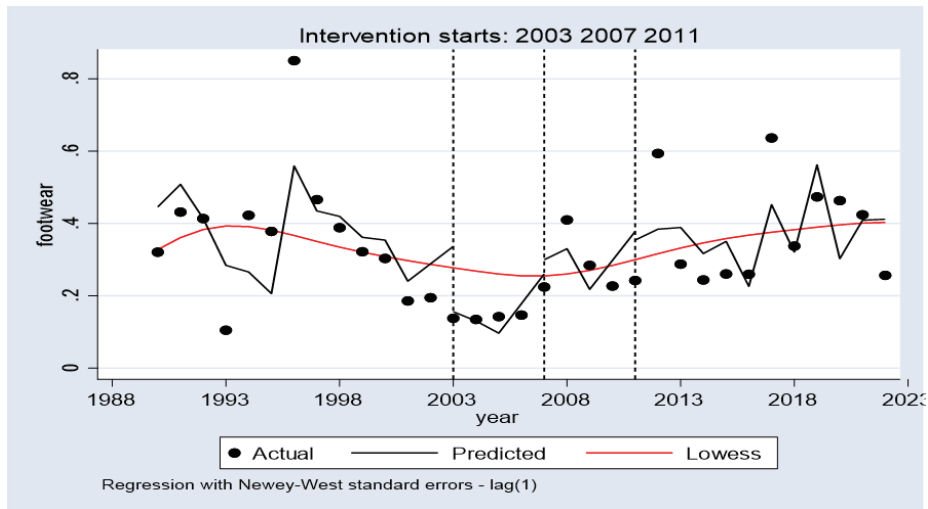


Figure 5.5 provides a graphical presentation for the model on articles of leather. The graph indicates that before the imposition of a 20 per cent export levy on raw hides and skins in 2003, the export of articles of leather slightly increased then started to decline in 1997. Similarly, while the introduction of a 40 per cent export levy in 2007 initially showed a notable positive effect, it was followed by another significant decline in exports. The same pattern was observed with the 80 per cent export levy, where an initial positive impact was followed by a decrease in exports.

Figure 5.5: market diversification for articles of leather



As illustrated in Figure 5.6, the imposition of a 20 per cent export levy in 2003 on footwear, gaiters, and related items had a significant negative impact prior to which a declining trend was evident. This was followed by a slight decline in the export of footwear products until 2007 when the export levy was increased to 40 per cent, leading to exports slowly improving. This increment resulted in a positive impact followed by a slight decline in exports. Notably, the imposition of an 80 per cent export levy led to a significant increase in exports up to 2022. This indicates that a higher levy on raw hides and skins benefits the export of these products by ensuring manufacturers have sufficient raw materials for production. It also indicates a strong market demand for these products, despite the changing policy environment, highlighting the need for enhanced interventions to support value-added leather products.

Figure 5.6: Market diversification for footwear products

5.5.3 Export market penetration regression results

Table 5.12 shows the results of the interrupted time series on the effects of export levy on raw hides and skins on export market penetration as a measure of export competitiveness of three leather product categories: raw hides and skins (HS 41), articles of leather (HS 42), and footwear (HS 64). For raw hides and skins (model 7), there was no significant overall trend observed. However, a significant positive trend change (coefficient 0.248, $p < 0.001$) was noted following the 2003 intervention with a 20 per cent export levy imposition. The 2007 intervention, which increased the export levy to 40 per cent, resulted in a highly significant immediate negative impact (coefficient -0.975, $p < 0.001$). In 2011, the further increase of export levy to 80 per cent led to a significant immediate positive impact (coefficient 0.585, $p < 0.05$), but this was followed by a significant negative trend change (coefficient -0.248, $p < 0.001$).

On articles of leather (model 8), no significant overall trend or immediate impacts were observed from 1988-2002 (before the export levy), and during the interventions of 2003-2006 (20% export levy), 2007-2011 (40% export levy), and 2012-2022 (80% export levy), no significant changes in trend were noted after the interventions. In contrast, for footwear, gaiters and the like (model 10), there was a significant immediate negative impact from the 2007 intervention (coefficient -0.674, $p < 0.05$) when a 40 per cent export levy was imposed. Similarly, the 80 per cent export levy introduced in 2011 intervention recorded a significant negative coefficient of -1.079 ($p < 0.05$), yet no significant changes in trend were observed following the export levy interventions. Across all models, the manufacturing value added as a percentage of GDP and the exchange rate did not significantly influence export market penetration.

Table 5.12: Interrupted time series analysis results on export market penetration

	Model (7)	Model (8)	Model (10)
	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
_t	0.0482 (0.82)	-0.345 (-0.79)	-0.159 (-1.19)
_x2003	-0.166 (-0.69)	1.219 (0.82)	0.556 (1.10)
_x_t2003	0.248*** (4.55)	0.240 (0.79)	0.258 (1.85)
_x2007	-0.975*** (-8.63)	-0.348 (-0.48)	-0.674* (-2.55)
_x_t2007	-0.0242 (-0.31)	0.332 (0.64)	0.144 (0.63)
_x2011	0.585* (2.41)	1.630 (0.86)	-1.079* (-2.26)
_x_t2011	-0.248*** (-5.34)	-0.146 (-0.47)	-0.0235 (-0.25)
Manufacturing value added as a percentage of GDP	-0.0154 (-0.23)	0.539 (0.91)	0.264 (1.26)
Exchange rate	-0.0140 (-1.17)	0.0663 (0.74)	0.0285 (1.05)
_cons	2.214* (2.65)	-4.691 (-0.65)	-1.302 (-0.53)
N	35	35	35

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5.7 provides a graphical representation of export market penetration for raw hides and skins, illustrating the effects of export levies. The graph reveals that despite the imposition of a 20 per cent export levy in 2003, the market penetration of these products continued to increase until 2007, when a 40 per cent export levy was introduced, resulting in a significant decrease. This decline was followed by an upward trend until 2011 when an 80 per cent export levy was imposed. After this, there was no effect that was observed, with a decreasing trend continuing up to 2022.

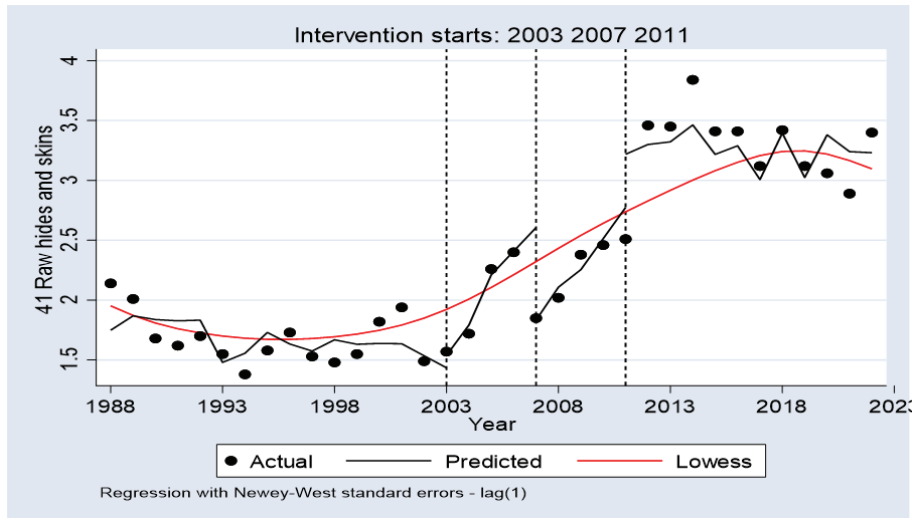
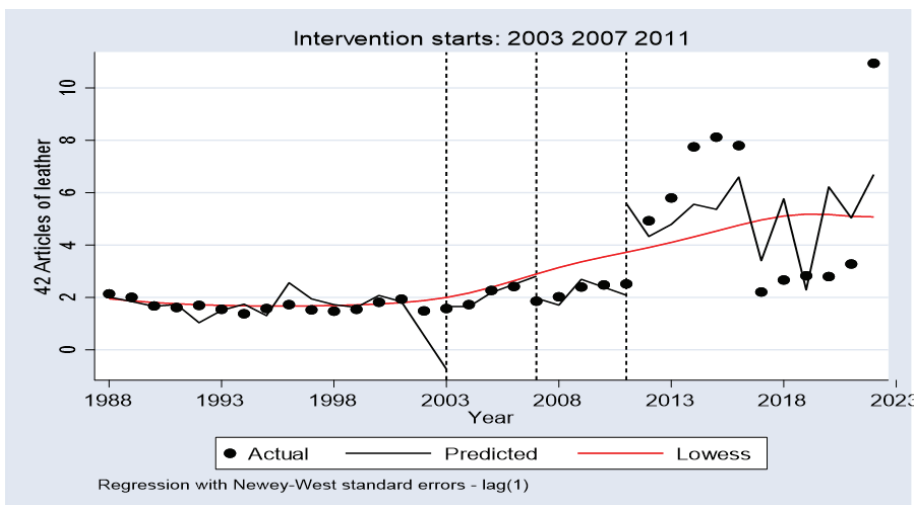
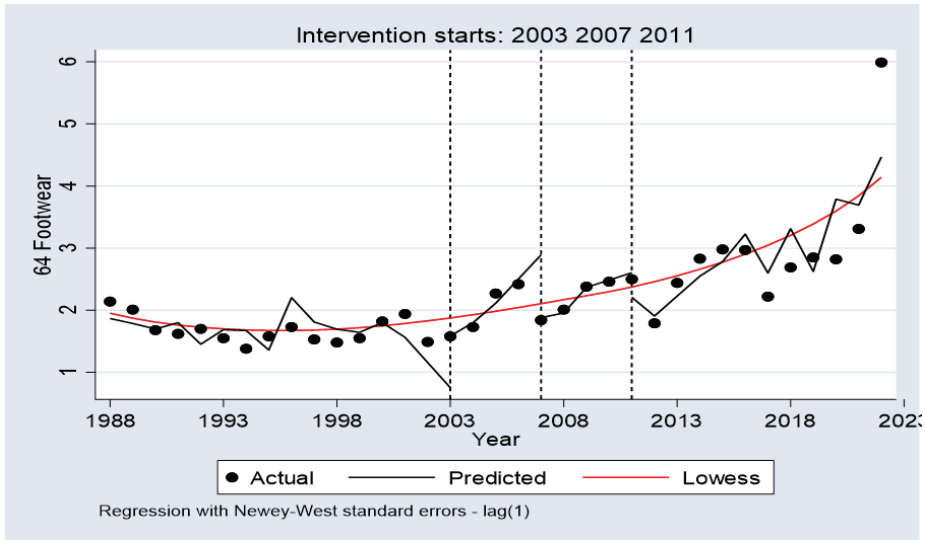
Figure 5.7: Export market penetration for raw hides and skins

Figure 5.8 presents a graphical representation of the export market penetration for leather articles. Before the imposition of a 20 per cent export levy in 2003, there was a relatively stable trend in export market penetration. The introduction of the export levy in 2003 initially caused a significant negative impact, followed by an increasing trend. When the levy was raised to 40 per cent in 2007, there was another negative effect, which was subsequently followed by an upward trend until 2011. The imposition of an 80 per cent export levy in 2011 caused another significant impact, continuing the pattern observed in the previous years.

Figure 5.8: Export market penetration for articles of leather

As illustrated in Figure 5.9, prior to the imposition of a 20 per cent export levy in 2003, footwear, gaiters, and related items maintained a stable trend until 1998, when the trend began to increase. This upward trend continued until 2007, when the 40 per cent export levy was introduced. A significant effect was recorded in 2007, followed by an upward trend until 2011, when the 80 per cent export levy was imposed. This pattern persisted until 2022.

Figure 5.9: Export market penetration for footwear and gaiters



6. Conclusion and Policy Recommendations

6.1 Conclusion

The study concludes that, with the introduction of export levies, raw hides and skins consistently displayed moderate RCA across 20 per cent and 50 per cent export levy regimes. However, they demonstrated strong RCAs under the 40 per cent and 80 per cent export levy regimes. In contrast, footwear and similar products maintained their competitiveness despite recording weaker RCAs. Articles of leather, such as saddlery and handbags, remained uncompetitive with consistently low RCAs.

Market diversification was significant for raw hides and skins, with countries like China and Bangladesh being the key importers, though with decreased value as the export levy increased. Articles of leather also experienced increased diversification and reduced market concentration, with notable improvements in Italy, the United States, and Germany. Footwear products benefited from higher levies, showing an increased market presence and diversification, particularly within the EAC countries.

The export market penetration indicated that higher export levies significantly correlated with increased market penetration and competitiveness in international markets. Generally, higher export levies contributed to a broader market reach and enhanced competitiveness for Kenya's leather products. Given the trends, it is important to note that while export levies on raw hides and skins have indeed contributed to market diversification and competitiveness, the government's goal of revitalizing the leather sector and achieving significant value addition for Kenya's leather products will necessitate a comprehensive approach. There is a need for this approach to extend beyond export restrictions and include targeted support across the entire value chain.

6.2 Policy Recommendations

1. Implement targeted investment strategies to enhance the competitiveness of raw hides and skins, articles of leather, and footwear. The RCA identifies competitive products that require investment in processing facilities to upgrade leather processing and tanning into finished leather products. The government could also provide targeted investment incentives focusing on weakly positioned product lines, such as traces, leads, knee pads, muzzles, saddle cloths, trunks, suitcases, vanity cases, executive cases, briefcases, school satchels, and spectacle cases, among others, which have exhibited a decline in competitiveness.
2. Enhance market diversification by leveraging existing regional and international trade pacts, such as the African Continental Free Trade Area

(AfCFTA), to expand the market for leather and leather products. Further, enhancing existing trade relations with key importing countries through bilateral agreements, and actively participating in trade fairs and exhibitions to showcase Kenyan leather products, will boost market penetration and competitiveness.

3. Develop and improve the leather industry infrastructural technology to shape the quality of final leather and leather products. This could be done by facilitating the creation of innovative and fashionable designs and acquiring modern machinery with enhanced production capabilities. This would allow improvement of production quality and enhance the quantity of leather products, such as footwear, and in turn increase market penetration.
4. Develop the domestic capability of manufacturers in the leather industry by investing in capacity building and skills development programmes for leather manufacturers. Attracting foreign direct investment in the leather industry could support this intervention and help to tap into technology and capital that will enhance the competitiveness of leather and leather products.

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Annexes

Annex 1: RCAs for raw hides, skins and leather products across export levy regimes (20%, 40%, and 80%)

Years	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
1988	0	0.052	0.071
1989	0.005	0.146	0.113
1990	0	0.086	0.177
1991	0.001	0.14	0.27
1992	0.003	0.221	0.236
1993	0.138	0.492	0.421
1994	0.436	0.433	0.676
1995	0.267	0.478	0.771
1996	0.084	0.559	0.566
1997	1.617	1.637	1.087
1998	1.877	1.617	0.93
1999	2.439	1.877	1.203
2000	2.725	2.439	1.294
2001	2.195	2.725	1.315
2002	2.195	0.63	0.077
Average RCA (1988-2002)-Before implementation of export levy	0.932	0.902	0.614
2003	2.689	0.119	1.082
2004	3.723	0.103	1.309
2005	3.729	0.118	1.191
2006	4.237	0.107	1.473
Average RCA (2003-2006) -20 per cent export levy	3.595	0.112	1.264
2007	5.097	0.07	1.082
2008	5.345	0.412	1.309
2009	3.93	0.09	1.191
2010	5.163	0.124	1.473
2011	7.964	0.091	1.264

Years	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
Average RCA (2007-2011) -40 % export levy	5.500	0.157	1.264
2012	8.405	0.125	1.354
2013	9.103	0.09	1.179
2014	7.493	0.091	1.246
2015	5.984	0.073	1.138
2016	5.027	0.072	1.357
2017	5.853	0.075	1.312
2018	5.93	0.072	1.203
2019	5.055	0.081	0.911
2020	4.103	0.061	0.801
2021	3.251	0.068	0.744
2022	3.644	0.068	0.701
Average RCA (2012-2022) -80 % export levy	5.804	0.080	1.086
2023	3.686	0.06	0.387

Source: International Trade Centre (ITC)

Annex 2: RCAs for raw hides, skins and leather products across export levy regimes (20%, 40%, and 80%)

Product code	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
Product label	Raw hides and skins of bovine "incl. buffalo" or equine animals, fresh, or salted, dried, limed, ...	Raw skins of sheep or lambs, fresh, or salted, dried, limed, pickled or otherwise preserved, ...	Other raw hides and skins, fresh, or salted, dried, limed, pickled or otherwise preserved, ...	Tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, without hair on, ...	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excl. further ...	Tanned or crust hides and skins of goats, pigs, reptiles and other animals, without ...	Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of bovine ...	Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of sheep ...	Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of goats ...	Chamois leather, incl. combination chamois leather (excl. glacé-tanned leather subsequently ...	Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether ...
2003	5.166	0.74	11.935	0.155	21.666	61.492	0	0.04	0.392	0.009	-
2004	10.216	0.965	6.227	0.631	34.911	44.519	0.198	0.094	0.414	0.058	0.148
2005	6.594	5.573	5.975	1.701	54.271	48.953	0.144	-	1.085	-	-
2006	6.696	0.258	0.738	3.464	51.012	88.705	0.065	0.048	1.901	-	-
Average RCA (2003-2006)	7.168	1.884	6.219	1.488	40.465	60.917	0.102	0.061	0.948	0.034	0.148
cent export levy											
2007	1.54	0.007	-	9.114	49.5	86.569	0.092	0.004	0.632	-	-
2008	0.434	-	-	11.007	45.295	86.833	0.099	0.148	0.083	-	-

2009	0.349	-	0.007	2.829	40.806	107.725	0.01	-	0.209	-	-
2010	0.08	0.025	-	8.792	61.319	53.703	0.005	-	0.077	-	-
2011	0.564	0.236	0.217	16.609	66.779	115.793	0.066	0.014	0.177	-	0.042
Average RCA (2007- 2011) -40 % export levy	0.593	0.089	0.112	9.670	52.740	90.125	0.054	0.055	0.236	0.000	0.042
2012	3.075	0.142	0.142	16.156	85.686	119.137	0.067	-	0.039	-	0.016
2013	0.749	-	0.064	19.121	108.113	140.768	0.075	-	0.398	-	0.048
2014	0.652	-	0.06	15.695	111.736	187.843	0.187	-	0.082	-	0.028
2015	0.626	-	0.115	16.761	69.991	109.722	0.074	-	0.01	-	0.049
2016	1.025	-	0.119	13.097	60.951	102.015	0.032	0.031	0.645	-	0.029
2017	0.303	0.03	0.16	13.69	90.976	128.929	0.048	-	0.535	-	0.215
2018	0.505	0.005	0.314	12.065	151.067	113.682	0.041	1.863	0.347	-	0.115
2019	0.663	-	6.978	8.463	146.528	100.227	0.086	0.099	0.212	-	0.155
2020	0.171	0.023	2.981	5.576	111.202	102.115	0.178	-	0.004	-	0.502
2021	0.069	-	8.638	5.142	85.269	77.908	0.094	-	-	-	0.628
2022	2.277	0.04	3.605	5.699	62.704	95.054	0.019	-	-	-	0.366
Average RCA (2012- 2022) -80 % export levy	0.920	0.048	2.107	11.951	98.566	116.127	0.082	0.664	0.252	0.000	0.196
2023	2.81	0	0.349	3.844	68.787	96.248	0.122	0.033	0.017	0.017	0.426

Source: International Trade Centre (ITC)

Annex 3: RCAs for leather products HS 42 for the period 2003 to 2022 across export levy regimes (20%, 40% and 80%)

Product code	'4201	'4202	'4203	'4204	'4205	'4206
Product label	Saddlery and harness for any animal, incl. traces, leads, knee pads, muzzles, saddle cloths, ...	Trunks, suit-cases, vanity cases, executive-cases, briefcases, school satchels, spectacle cases, ...	Articles of apparel and clothing accessories, of leather or composition leather (excl. footwear ...	Articles for technical use, of leather or composition leather	Articles of leather or composition leather (excluding saddlery and harness bags; cases and ...	Articles of gut, gold-beater's skin, bladders or tendons (excluding silkworm gut, sterile catgut, ...
2003	0.011	0.18	0.017	0	0.019	0
2004	0.046	0.133	0.031	0	0.077	0.532
2005	0.074	0.164	0.017	0	0.031	0.377
2006	0.071	0.132	0.051	0.08	0.023	1.09
Average RCA (2003-2006) -20 per cent export levy	0.051	0.152	0.029	0.020	0.038	0.500
2007	0.09	0.069	0.071	0.346	0.065	0.087
2008	0.069	0.532	0.035	0	0.068	0
2009	0.048	0.098	0.04	0	0.173	0
2010	0.118	0.125	0.116	0	0.14	0

2011	0.122	0.084	0.113	0	0.156	0
Average RCA (2007-2011) -40 % export levy	0.089	0.182	0.075	0.069	0.120	0.017
2012	0.157	0.113	0.192	0	0.133	0
2013	0.327	0.089	0.072	0	0.072	0
2014	0.34	0.087	0.09	0	0.063	0.178
2015	0.324	0.07	0.06	0	0.052	0
2016	0.326	0.065	0.077	0	0.064	0
2017	0.328	0.065	0.113	0	0.076	0
2018	0.327	0.064	0.093	0	0.074	0
2019	0.283	0.072	0.089	0	0.163	0
2020	0.644	0.04	0.069	0	0.075	0
2021	0.299	0.059	0.056	0	0.088	0
2022	0.554	0.049	0.093	0	0.085	1.743
Average RCA (2012-2022) -80 % export levy	0.355	0.070	0.091	0.000	0.086	0.175
2023	0.259	0.047	0	0	0	0

Source: International Trade Centre (ITC)

Annex 4: RCAs for footwear HS64 across for the period 2003 to 2022

Product code	'6401	'6402	'6403	'6404	'6405	'6406
Product label	Waterproof footwear with outer soles and uppers of rubber or plastics, the uppers of which ...	Footwear with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading ...	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of ...	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of ...	Footwear with outer soles of rubber or plastics, with uppers other than rubber, plastics, leather ...	Parts of footwear, incl. uppers whether or not attached to soles other than outer soles; removable ...
2003	4.810	4.470	0.120	0.250	0.940	0.410
2004	8.680	4.540	0.180	0.490	2.530	0.700
2005	8.390	4.080	0.250	0.490	1.770	0.290
2006	18.570	4.250	0.190	1.460	2.730	0.230
Average RCA (2003-2006) -20 per cent export levy	10.113	4.335	0.185	0.673	1.993	0.408
2007	16.720	4.060	0.080	6.010	2.370	0.210
2008	20.650	3.280	0.060	2.400	1.910	0.190
2009	26.750	2.550	0.110	0.460	2.540	0.230
2010	27.060	1.890	0.290	0.110	4.720	0.310
2011	21.620	2.010	0.120	0.140	4.780	0.220

Average RCA (2007-2011) -40 % export levy	22.560	2.758	0.132	1.824	3.264	0.232
2012	32.650	2.290	0.290	0.110	2.550	0.220
2013	27.730	2.310	0.240	0.140	1.960	0.100
2014	20.360	1.770	0.150	0.100	1.570	0.070
2015	17.080	1.720	0.110	0.070	1.550	0.090
2016	16.510	1.750	0.110	0.030	1.380	0.090
2017	18.690	1.650	0.090	0.020	1.030	0.060
2018	19.310	1.990	0.090	0.010	0.690	0.220
2019	20.100	2.200	0.110	0.020	0.780	0.090
2020	21.080	2.450	0.070	0.020	1.590	0.160
2021	9.430	2.100	0.080	0.020	1.570	0.080
2022	4.910	1.440	0.020	0.010	0.310	0.040
Average RCA (2012-2022) -80 % export levy	18.895	1.970	0.124	0.050	1.362	0.111
2023	6.041	1.132	0.015	0.002	0.567	0.046

Source: International Trade Centre (ITC)

Annex 5: HHI for leather group of products across export levy regimes (20%, 40% and 80%)

Years	HS 41 Raw hides and skins (other than furskins) and leather		HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles		HS 64 Footwear, gaiters and the like; parts of such articles	
	HH market index	Number of markets	HH market index	Number of markets	HH market index	Number of markets
1988	0.239	7	0.093	6	0	1
1989	0.271	13	0.076	12	0	1
1990	0.202	16	0.143	15	0.321	7
1991	0.252	16	0.46	13	0.432	7
1992	0.127	16	0.16	18	0.414	8
1993	0.087	22	0.265	20	0.105	10
1994	0.287	27	0.136	29	0.423	12
1995	0.256	31	0.145	23	0.378	19
1996	0.306	17	0.228	17	0.85	6
1997	0.232	20	0.178	20	0.466	17
1998	0.253	20	0.207	21	0.389	8
1999	0.337	23	0.222	22	0.322	14
2000	0.307	26	0.204	37	0.304	23
2001	0.401	31	0.115	31	0.186	26
2002	0.128	29	0.218	25	0.195	31
Average RCA (1988-2002)-Before implementation of export levy	0.246	21	0.190	21	0.319	13
2003	0.146	49	0.198	30	0.138	46
2004	0.221	38	0.172	37	0.135	48
2005	0.133	35	0.136	30	0.143	45
2006	0.131	35	0.144	36	0.147	52

Average RCA (2003-2006) -20 per cent export levy	0.158	39	0.163	33	0.141	48
2007	0.19	18	0.184	34	0.225	25
2008	0.184	22	0.129	48	0.41	42
2009	0.169	23	0.088	50	0.284	38
2010	0.192	30	0.103	58	0.227	53
2011	0.182	32	0.136	53	0.243	55
Average RCA (2007-2011) -40 % export levy	0.183	25	0.128	49	0.278	43
2012	0.255	25	0.131	43	0.594	45
2013	0.235	27	0.12	45	0.288	42
2014	0.224	27	0.094	61	0.244	60
2015	0.234	29	0.11	64	0.261	65
2016	0.221	29	0.089	61	0.26	61
2017	0.222	21	0.15	48	0.637	55
2018	0.172	25	0.079	68	0.338	61
2019	0.239	24	0.122	67	0.474	63
2020	0.193	22	0.108	67	0.463	62
2021	0.224	25	0.07	90	0.424	75
2022	0.163	23	0.1	67	0.257	11
Average RCA (2012-2022) -80 % export levy	0.217	25	0.107	62	0.385	55
2023	0.303	23	0.085	58	0.309	50

Source: International Trade Centre (ITC)

Annex 6: HHI for HS 41 raw hides and skins (other than furskins) and leather across export levy regimes (20%, 40% and 80%)

	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
	Raw hides and skins of bovine "incl. buffalo" or equine animals, fresh, or salted, dried, limed, ...	Raw skins of sheep or lambs, fresh, or salted, dried, limed, pickled or otherwise preserved, ...	Other raw hides and skins, fresh, or salted, dried, limed, pickled or otherwise preserved, ...	Tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, without hair on ...	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excl. further ...	Tanned or crust hides and skins of goats or kids, pigs, reptiles and other animals, without ...	Leather further prepared after tanning "incl. parchment-dressed leather", of bovine ...	Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of sheep ...	Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of goats ...	Chamois leather, incl. combination of chamois leather (excl. glace-tanned leather subsequently ...	Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether ...
	0.814	0.159	0.448	0.382	0.168	0.558	0.788	0	0.146	0	0
HH market index											
2003	9	7	11	6	5	9	4	0	2	0	1
Number of markets											
HH market index	0.885	0.262	0.435	0.264	0.481	0.484	0.439	0.985	0.112	0	0.281
Number of markets	13	7	7	9	9	11	4	2	6	1	2
2004											
HH market index	0.728	0.247	0.522	0.314	0.605	0.208	0.892	0	0.581	0	0.114
Number of markets	10	9	10	12	7	12	4	1	4	1	2
2005											
HH market index	0.633	0.141	0.242	0.156	0.21	0.159	0.911	0	0.906	0	0.075
Number of markets	13	5	9	14	9	12	6	1	8	1	2
2006											

	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
2007	HH market index	0	0.447	0.193	0.298	0.343	0.501	0.866	0.865	0	0.989
	Number of markets	6	3	8	5	7	4	2	4	0	2
2008	HH market index	0.581	0.453	0.221	0.385	0.19	0.109	0.426	0.111	0	0
	Number of markets	6	6	14	7	8	7	3	6	0	1
2009	HH market index	0.346	0.442	0.161	0.321	0.327	0.278	0.925	0.384	0	0
	Number of markets	7	5	9	5	11	8	3	4	0	1
2010	HH market index	0.576	0.226	0.243	0.344	0.313	0.292	0.416	0.289	0	0.923
	Number of markets	11	6	14	8	8	9	4	5	1	2
2011	HH market index	0.355	0.156	0.35	0.098	0.253	0.702	0.203	0.827	0	0.881
	Number of markets	10	8	13	11	11	13	4	7	1	2

	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
	HH market index	0.424	0.411	0.341	0.166	0.371	0.837	0.417	0.637	0	0
2012	Number of markets	7	7	12	13	9	5	5	4	1	1
	HH market index	0.372	0.506	0.366	0.132	0.411	0.513	0.431	0.276	0.198	0.81
2013	Number of markets	4	5	12	11	11	7	4	10	2	2
	HH market index	0.542	0.123	0.392	0.148	0.324	0.52	0.411	0.353	0	0.933
2014	Number of markets	3	4	15	12	12	8	5	8	1	4
	HH market index	0.999	0.181	0.389	0.106	0.152	0.268	0.197	0.17	0.861	0.166
2015	Number of markets	2	4	15	11	12	10	6	9	2	3
	HH market index	0	0.406	0.333	0.095	0.225	0.59	0.664	0.558	0	0.051
2016	Number of markets	1	4	9	10	12	11	6	11	1	3

	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
	HH market index	0	0.901	0.353	0.105	0.209	0.286	0.541	0.265	0	0.786
2017	Number of markets	1	2	10	8	8	4	2	7	0	3
	HH market index	0	0.863	0.224	0.112	0.207	0.319	0.766	0.523	0	0.056
2018	Number of markets	1	4	17	10	12	5	2	8	1	2
	HH market index	0	0.349	0.425	0.145	0.333	0.389	0.697	0.145	0	0
2019	Number of markets	0	4	11	10	10	8	3	3	1	1
	HH market index	0.057	0.546	0.43	0.174	0.26	0.198	0.039	0.745	0.817	0
2020	Number of markets	2	4	15	8	9	8	2	5	2	1
	HH market index	0	0.479	0.588	0.291	0.164	0.294	0.428	0.791	0	0.618
2021	Number of markets	4	3	10	8	6	8	4	2	1	5

	'4101	'4102	'4103	'4104	'4105	'4106	'4107	'4112	'4113	'4114	'4115
HH market Index	0.786	0.284	0.284	0.677	0.503	0.238	0.197	0.603	0	0	0.663
Number of markets	4	2	4	12	10	10	10	3	0	1	3
2022											

Annex 7: Rank on importing countries in exported value for raw hides and skins

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
China	-	27		4	6,982	5	5,583	1	6,021	1
Italy	2,742	1		2	17,932	1	5,507	2	3,271	2
Indonesia	88	11		8	3,493	6	2,068	4	2,733	3
Nigeria	-	27		14	874	11	2,134	3	2,256	4
Pakistan	766	5	3,223	5	3,007	7	1,604	5	1,722	5
India	1,146	4	5,581	3	9,148	4	735	7	566	6
Bangladesh	-	27	19	19	-	34	1,108	6	393	7
Ethiopia	-	27	-	31	-	34	-	23	341	8
Zimbabwe	40	16	2	29	-	34	-	23	157	9
Ghana	-	27	-	31	2	29	25	16	134	10
Spain	210	9	313	12	1,545	10		23	119	11
Türkiye	711	6	2,840	6	2,650	8	52	11	102	12
Portugal	-	27	-	31	32	22	-	23	94	13
United Republic of Tanzania	45	15	7	23	25	23	39	13	92	14
Togo	-	27	-	31	-	34	8	21	69	15
Japan	5	21	-	31	160	16	74	10	52	16
Area Nes	46	14	2	29	-	34	181	8	50	17
Hong Kong, China	2,415	2	8,814	1	17,387	2	36	14	41	18
Rwanda	-	27	-	31	5	28	26	15	29	19
Vietnam	-	27	-	31	152	18	-	23	14	20

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Singapore	190	10	74	15	153	17	9	20	13	21
Democratic Republic of the Congo	-	27	-	31	-	34	-	23	5	22
South Africa	248	8	497	10	-	34	21	18	4	23
South Sudan	-	27	-	31	-	34	-	23	2	24
United States of America	1	24	-	31	-	34	-	23	1	25
Argentina	-	27	-	31	-	34	-	23	-	26
Australia	-	27	12	21	1,986	9	-	23	-	26
Belgium	-	27	-	31	-	34	-	23	-	26
Benin	-	27	-	31	-	34	-	23	-	26
Brazil	-	27	110	13	238	14	-	23	-	26
British Indian Ocean Territory	-	27	-	31	-	34	-	23	-	26
Bulgaria	-	27	-	31	-	34	-	23	-	26
Burundi	-	27	-	31	2	29	1	22	-	26
Congo	-	27	-	31	-	34	-	23	-	26
Cambodia	5	21	-	31	-	34	-	23	-	26
Canada	-	27	7	23	-	34	-	23	-	26
Equatorial Guinea	-	27	-	31	-	34	-	23	-	26
Guinea	-	27	-	31	-	34	-	23	-	26
Chad	-	27	-	31	-	34	-	23	-	26
Chile	-	27	33	17	-	34	-	23	-	26
Croatia	-	27	-	31	-	34	-	23	-	26

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Czech Republic	-	27	-	31	-	34	-	23	-	26
Denmark	-	27	-	31	-	34	-	23	-	26
Djibouti	-	27	-	31	-	34	-	23	-	26
Egypt	-	27	-	31	-	34	-	23	-	26
Finland	-	27	-	31	-	34	-	23	-	26
France	1	24	-	31	-	34	-	23	-	26
Germany	-	27	-	31	-	34	-	23	-	26
Gambia	-	27	-	31	-	34	-	23	-	26
Greece	4	23	11	22	19	24	41	12	-	26
Guinea	-	27	-	31	-	34	-	23	-	26
Iceland	-	27	-	31	-	34	-	23	-	26
Ireland	-	27	-	31	-	34	-	23	-	26
Islamic Republic of Iran	-	27	27	18	-	34	-	23	-	26
Israel	-	27	-	31	-	34	-	23	-	26
Jordan	58	13	-	31	-	34	-	23	-	26
Democratic People's Republic of Korea	-	27	-	31	9	26	-	23	-	26
Republic of Korea	-	27	-	31	6	27	-	23	-	26
Kuwait	-	27	-	31	12	25	-	23	-	26
Lebanon	-	27	-	31	-	34	-	23	-	26
State of Libya	-	27	-	31	-	34	-	23	-	26

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
North Macedonia	-	27	-	31	-	34	-	23	-	26
Madagascar	-	27	-	31	-	34	80	9	-	26
Malta	-	27	-	31	-	34	-	23	-	26
Malawi	11	19	-	31	-	34	-	23	-	26
Malaysia	73	12	-	31	649	12	-	23	-	26
Mauritius	-	27	-	31	-	34	-	23	-	26
Mexico	-	27	528	9	-	34	21	18	-	26
Netherlands	1,625	3	-	31	49	20	-	23	-	26
Nepal	-	27	-	31	-	34	-	23	-	26
Niger	-	27	-	31	-	34	-	23	-	26
Palau	-	27	-	31	-	34	-	23	-	26
Peru	-	27	-	31	-	34	-	23	-	26
Philippines	-	27	-	31	-	34	-	23	-	26
Poland	-	27	3	27	-	34	-	23	-	26
Romania	-	27	-	31	-	34	-	23	-	26
Qatar	-	27	-	31	-	34	-	23	-	26
Saudi Arabia Ship Stores and Bunkers	-	27	-	31	-	34	-	23	-	26
Somalia	1	24	-	31	1	32	-	23	-	26
Sri Lanka	-	27	16	20	-	34	-	23	-	26

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Sudan (before 2012)	-	27	-	31	2	29	-	23	-	26
Sweden	-	27	-	31	-	34	-	23	-	26
Switzerland	13	18	455	11	15,475	3	-	23	-	26
Syrian Arab Republic	-	27	38	16	-	34	-	23	-	26
Chinese Taipei	-	27	4	25	199	15	-	23	-	26
Thailand	40	16	-	31	78	19	-	23	-	26
Tokelau	-	27	-	31	-	34	-	23	-	26
Tunisia	-	27	-	31	-	34	-	23	-	26
Turks and Caicos Islands	-	27	-	31	-	34	-	23	-	26
Uganda	6	20	3	27	48	21	-	23	-	26
United Arab Emirates	-	27	715	7	461	13	-	23	-	26
United Kingdom	385	7	4	25	1	32	25	16	-	26
Uruguay	-	27	-	31	-	34	-	23	-	26
Yemen	-	27	-	31	-	34	-	23	-	26
Zambia	-	27	-	31	-	34	-	23	-	26

Annex 8: Rank on importing countries in exported value for articles of leather

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported Value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Italy	2.00	11	1.00	23	26.00	13	429.00	1	349.00	1
Democratic Republic of the Congo	0.00	17	401.00	1	51.00	8	1.00	38	254.00	2
Ethiopia	0.00	17	2.00	20	6.00	25	4.00	29	225.00	3
United States of America	17.00	7	92.00	4	244.00	1	360.00	2	171.00	4
Rwanda	125.00	2	4.00	16	43.00	9	145.00	5	137.00	5
United Kingdom	12.00	8	188.00	2	204.00	5	152.00	4	133.00	6
United Republic of Tanzania	358.00	1	158.00	3	203.00	6	49.00	11	90.00	7
South Sudan	0.00	17	0.00	31	0.00	37	94.00	7	79.00	8
Zimbabwe	0.00	17	0.00	31	1.00	30	0.00	45	78.00	9
Uganda	87.00	3	55.00	7	235.00	2	30.00	13	52.00	10
Belgium	0.00	17	0.00	31	0.00	37	83.00	8	50.00	11
France	1.00	13	1.00	23	10.00	21	59.00	9	41.00	12
Sweden	0.00	17	0.00	31	0.00	37	59.00	9	34.00	13
Germany	0.00	17	3.00	18	8.00	23	205.00	3	33.00	14
Burundi	0.00	17	20.00	11	24.00	14	129.00	6	25.00	15
Somalia	86.00	4	72.00	5	28.00	12	24.00	14	15.00	16
Canada	0.00	17	3.00	18	9.00	22	8.00	22	13.00	17

Importers	Exported value 2002	Rank (Before export levy)	Exported Value 2006	Rank (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Equatorial Guinea	0.00	17	0.00	31	0.00	37	0.00	45	11.00	18
China	0.00	17	1.00	23	0.00	37	6.00	26	10.00	19
Sierra Leone	0.00	17	0.00	31	0.00	37	8.00	22	9.00	20
Botswana	4.00	9	0.00	31	1.00	30	6.00	26	8.00	21
Portugal	0.00	17	0.00	31	0.00	37	2.00	35	8.00	21
Zambia	0.00	17	1.00	23	13.00	17	10.00	21	8.00	21
Area Nes	1.00	13	44.00	8	36.00	10	15.00	20	7.00	24
Australia	0.00	17	0.00	31	0.00	37	21.00	15	7.00	24
Ghana	0.00	17	0.00	31	2.00	27	1.00	38	7.00	24
Sudan	0.00	17	0.00	31	0.00	37	0.00	45	7.00	24
Switzerland	1.00	13	0.00	31	0.00	37	3.00	31	7.00	24
South Africa	0.00	17	5.00	15	18.00	16	16.00	17	6.00	29
United Arab Emirates	0.00	17	20.00	11	0.00	37	17.00	16	6.00	29
Barbados	0.00	17	0.00	31	0.00	37	0.00	45	4.00	31
Denmark	0.00	17	1.00	23	1.00	30	0.00	45	4.00	31
Malawi	0.00	17	6.00	14	8.00	23	49.00	11	4.00	31
Mozambique	0.00	17	0.00	31	1.00	30	3.00	31	4.00	31
Ship Stores and Bunkers	1.00	13	1.00	23	229.00	3	16.00	17	4.00	31
Djibouti	0.00	17	0.00	31	0.00	37	2.00	35	3.00	36

Importers	Exported value 2002	Rank (Before export levy)	Exported Value 2006	Rank (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Netherlands	0.00	17	0.00	31	4.00	26	16.00	17	3.00	36
Nigeria	0.00	17	0.00	31	0.00	37	2.00	35	3.00	36
Poland	0.00	17	0.00	31	0.00	37	8.00	22	3.00	36
Spain	0.00	17	0.00	31	11.00	20	0.00	45	3.00	36
Cameroon	0.00	17	0.00	31	0.00	37	1.00	38	2.00	41
Estonia	0.00	17	0.00	31	0.00	37	1.00	38	2.00	41
India	0.00	17	0.00	31	2.00	27	1.00	38	2.00	41
Japan	2.00	11	0.00	31	0.00	37	1.00	38	2.00	41
Bahamas	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Central African Republic	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Côte d'Ivoire	0.00	17	0.00	31	1.00	30	3.00	31	1.00	45
Fiji	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Jamaica	0.00	17	4.00	16	0.00	37	0.00	45	1.00	45
Jordan	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Liberia	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
State of Libya	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Mauritius	0.00	17	0.00	31	0.00	37	1.00	38	1.00	45
Niger	0.00	17	1.00	23	0.00	37	0.00	45	1.00	45
Norway	0.00	17	0.00	31	31.00	11	0.00	45	1.00	45

Importers	Exported value 2002	Rank (Before export levy)	Exported Value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Pakistan	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Senegal	0.00	17	0.00	31	0.00	37	0.00	45	1.00	45
Singapore	0.00	17	1.00	23	12.00	18	0.00	45	1.00	45
Afghanistan	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Australia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Angola	0.00	17	2.00	20	0.00	37	0.00	45	0.00	59
Argentina	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Austria	0.00	17	0.00	31	0.00	37	3.00	31	0.00	59
Bangladesh	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Benin	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Brazil	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Bulgaria	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Burkina Faso	0.00	17	7.00	13	0.00	37	0.00	45	0.00	59
Chad	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Chile	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Colombia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Comoros	0.00	17	60.00	6	1.00	30	0.00	45	0.00	59
Congo	63.00	5	0.00	31	0.00	37	5.00	28	0.00	59
Cyprus	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Czech Republic	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59

Importers	Exported value 2002	Rank (Before export levy)	Exported Value 2006	Rank (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Egypt	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Eritrea	0.00	17	0.00	31	195.00	7	0.00	45	0.00	59
Finland	0.00	17	0.00	31	22.00	15	7.00	25	0.00	59
Gabon	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Gambia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Greece	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Guinea	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Hong Kong, China	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Hungary	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Iceland	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Indonesia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Iraq	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Ireland	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Israel	52.00	6	21.00	10	12.00	18	4.00	29	0.00	59
Kazakhstan	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Korea, Republic of	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Lebanon	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Lesotho	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Luxembourg	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Madagascar	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59

Importers	Exported value 2002	Rank (Before export levy)	Exported Value 2006	Rank (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Malaysia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Maldives	0.00	17	0.00	31	1.00	30	0.00	45	0.00	59
Mali	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Mexico	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Morocco	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Namibia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
New Zealand	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Oman	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Panama	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Peru	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Philippines	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Qatar	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Romania	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Russian Federation	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Saudi Arabia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Serbia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Seychelles	0.00	17	2.00	20	0.00	37	0.00	45	0.00	59
Sri Lanka	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Sudan (before 2012)	3.00	10	30.00	9	219.00	4	0.00	45	0.00	59

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported Value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011(40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Syrian Arab Republic	0.00	17	0.00	31	2.00	27	0.00	45	0.00	59
Chinese Taipei	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Thailand	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Tunisia	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Türkiye	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Uruguay	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59
Yemen	0.00	17	0.00	31	0.00	37	0.00	45	0.00	59

Annex 9: Rank on importing countries in exported value for footwear

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Uganda	956	2	8,373	1	10,507	1	9,950	1	10,007	1
Rwanda	232	4	2,401	4	5,491	4	8,587	2	7,378	2
United Republic of Tanzania	1,193	1	5,483	3	10,026	2	5,368	3	3,158	3
Burundi	-	24	714	9	590	8	946	4	525	4
South Sudan Democratic Republic of the Congo	-	24	-	42	-	54	8	6	23	5
	-	24	7,094	2	7,156	3	12	5	5	6
Czech Republic	100	24	-	42	-	54	-	10	1	7
Somalia		7	922	8	13	25	1	8	1	7
Afghanistan		24	-	42	-	54	-	10	-	9
Angola		24	-	42	12	29	-	10	-	9
Area Nes	113	6	11	22	13	25	-	10	-	9
Argentina		24	-	42	80	14	-	10	-	9
Australia		24	1	35	25	18	-	10	-	9
Austria		24	1	35	13	25	-	10	-	9
Azerbaijan		24	-	42	-	54	-	10	-	9
Bahrain	-	24	-	42	-	54	-	10	-	9
Bangladesh	-	24	2	32	-	54	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Barbados	-	24	-	42	-	54	-	10	-	9
Belgium	-	24	6	27	14	24	-	10	-	9
Benin	-	24	-	42	-	54	-	10	-	9
Bermuda	-	24	-	42	-	54	-	10	-	9
Botswana	-	24	-	42	1	47	-	10	-	9
Brazil	-	24	55	16	-	54	-	10	-	9
Bulgaria	-	24	7	24	9	31	-	10	-	9
Burkina Faso	-	24	-	42	1	47	-	10	-	9
Cambodia	-	24	-	42	-	54	-	10	-	9
Cameroon	-	24	-	42	21	20	-	10	-	9
Canada	-	24	1	35	2	40	-	10	-	9
Central African Republic	-	24	-	42	-	54	-	10	-	9
Chad	-	24	-	42	-	54	-	10	-	9
Chile	-	24	-	42	-	54	-	10	-	9
China (Keelung)	-	24	3	31	2	40	-	10	-	9
Cocos (Keeling) Islands	-	24	-	42	-	54	-	10	-	9
Colombia	-	24	292	12	35	16	-	10	-	9
Comoros	-	24	481	10	2,327	5	-	10	-	9
Congo	345	3	-	42	-	54	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Côte d'Ivoire		24	-	42	-	54	-	10	-	9
Cyprus		24	-	42	-	54	-	10	-	9
Denmark		24	-	42	-	54	-	10	-	9
Djibouti	29	9	1,349	6	-	54	-	10	-	9
Dominica		24	-	42	-	54	-	10	-	9
Dominican Republic		24	-	42	-	54	-	10	-	9
Egypt		24	-	42	-	54	-	10	-	9
Eritrea	22	11	-	42	2	40	-	10	-	9
Eswatini		24	-	42	-	54	-	10	-	9
Ethiopia	4	17	939	7	191	10	-	10	-	9
Finland		24	-	42	-	54	-	10	-	9
France	3	19	22	19	6	33	-	10	-	9
Gambia		24	1	35	-	54	-	10	-	9
Germany	-	24	-	42	13	25	-	10	-	9
Ghana		24	-	42	6	33	-	10	-	9
Greece		24	-	42	-	54	-	10	-	9
Guatemala		24	-	42	-	54	-	10	-	9
Guinea	-	24	-	42	-	54	-	10	-	9
Guyana		24	-	42	-	54	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Hong Kong, China		24	-	42	-	54	-	10	-	9
India	-	24	6	27	12	29	-	10	-	9
Indonesia		24	-	42	-	54	-	10	-	9
Islamic Republic of Iran		24	-	42	-	54	-	10	-	9
Ireland		24	-	42	-	54	-	10	-	9
Israel		24	64	15	35	16	-	10	-	9
Italy	8	16	18	20	20	22	-	10	-	9
Jamaica		24	-	42	-	54	-	10	-	9
Japan	1	21	4	29	72	15	-	10	-	9
Jordan		24	-	42	-	54	-	10	-	9
Korea, Republic of		24	1	35	-	54	-	10	-	9
Kuwait		24	-	42	2	40	-	10	-	9
Latvia		24	-	42	-	54	-	10	-	9
Lebanon		24	-	42	-	54	-	10	-	9
Liberia		24	-	42	-	54	-	10	-	9
Macao, China	-	24	-	42	1	47	-	10	-	9
Madagascar	21	12	7	24	4	35	-	10	-	9
Malawi	163	5	442	11	638	7	-	10	-	9
Malaysia		24	-	42	-	54	-	10	-	9
Maldives		24	7	24	1	47	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Mali	10	15	-	42	-	54	-	10	-	9
Malta		24	-	42	-	54	-	10	-	9
Mauritius	26	10	32	17	3	37	-	10	-	9
Mayotte	-	24	-	42	-	54	-	10	-	9
Mexico		24	-	42	1	47	-	10	-	9
Moldova, Republic of	-	24	-	42	-	54	-	10	-	9
Morocco	-	24	-	42	-	54	-	10	-	9
Mozambique	-	24	1,548	5	1,897	6	-	10	-	9
Namibia	1	21	1	35	2	40	-	10	-	9
Netherlands	-	24	-	42	1	47	-	10	-	9
New Zealand	-	24	-	42	-	54	-	10	-	9
Niger		24	-	42	-	54	2	7	-	9
Nigeria	2	20	-	42	3	37	-	10	-	9
Oman		24	-	42	-	54	-	10	-	9
Pakistan		24	-	42	-	54	-	10	-	9
Papua New Guinea		24	-	42	-	54	-	10	-	9
Peru		24	-	42	-	54	-	10	-	9
Philippines		24	-	42	-	54	-	10	-	9
Poland	-	24	-	42	-	54	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Portugal		24	1	35	-	54	-	10	-	9
Qatar		24	-	42	-	54	-	10	-	9
Romania		24	-	42	-	54	-	10	-	9
Saudi Arabia	-	24	-	42	-	54	-	10	-	9
Senegal		24	-	42	1	47	-	10	-	9
Seychelles		24	4	29	3	37	-	10	-	9
Ship Stores and Bunkers	1	21	-	42	4	35	1	8	-	9
Sierra Leone		24	-	42	9	31	-	10	-	9
Singapore	-	24	-	42	2	40	-	10	-	9
South Africa	-	24	2	32	180	11	-	10	-	9
Spain	-	24	8	23	21	20	-	10	-	9
Sri Lanka		24	-	42	15	23	-	10	-	9
Sudan		24	-	42	-	54	-	10	-	9
Sudan (before 2012)	19	13	166	13	296	9	-	10	-	9
Suriname		24	-	42	-	54	-	10	-	9
Sweden		24	-	42	-	54	-	10	-	9
Switzerland	-	24	-	42	-	54	-	10	-	9
Chinese Taipei		24	-	42	-	54	-	10	-	9
Thailand		24	-	42	-	54	-	10	-	9

Importers	Exported value 2002	Rank 2002 (Before export levy)	Exported value 2006	Rank 2006 (20% export levy)	Exported value 2011	Rank 2011 (40% export levy)	Exported value 2022	Rank 2022 (80% export levy)	Exported value 2023	Rank 2023 (50% export levy)
Togo		24	17	21	-	54	-	10	-	9
Trinidad and Tobago		24	-	42	2	40	-	10	-	9
Tunisia		24	-	42	-	54	-	10	-	9
Türkiye		24	-	42	-	54	-	10	-	9
United Arab Emirates	4	17	2	32	22	19	-	10	-	9
United Kingdom	37	8	138	14	142	12	-	10	-	9
United States of America	18	14	26	18	141	13	-	10	-	9
Uruguay		24	-	42	-	54	-	10	-	9

Annex 10: Index for export market penetration (EMPI) for hides and skins and articles of leather and footwear across export levy regimes (20%, 40%, and 80%)

	HS 41 Raw hides and skins (other than furskins) and leather	HS 42 Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles	HS 64 Footwear, gaiters and the like; parts of such articles
1988	2.170	2.140	2.140
1989	2.050	2.010	2.010
1990	1.720	1.680	1.670
1991	1.650	1.620	1.610
1992	1.720	1.700	1.690
1993	1.570	1.550	1.550
1994	1.400	1.380	1.380
1995	1.590	1.580	1.580
1996	1.740	1.310	1.290
1997	1.530	1.550	1.530
1998	1.480	1.490	1.480
1999	1.550	1.560	1.550
2000	1.820	1.840	1.830
2001	1.940	1.940	1.940
2002	1.490	1.490	1.490
2003	1.570	1.580	1.580
2004	1.720	1.730	1.730
2005	2.260	2.270	2.270
2006	2.400	2.420	2.420
2007	1.850	1.860	1.840
2008	2.020	2.030	2.010
2009	2.380	2.400	2.380
2010	2.460	2.480	2.460
2011	2.510	2.520	2.500
2012	3.460	4.930	1.790
2013	3.450	5.800	2.440
2014	3.840	7.750	2.830
2015	3.410	8.120	2.980
2016	3.410	7.800	2.970
2017	3.120	2.210	2.220

2018	3.420	2.670	2.690
2019	3.120	2.830	2.850
2020	3.060	2.800	2.820
2021	2.890	3.280	3.310
2022	3.400	10.940	5.990
2023	3.480	6.300	4.100

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