

From the Editor's Desk

In this edition of the SME Observer, the first paper is a detailed report on Pakistan's exports. It reiterates the case that crucial to Pakistan's economic development is its export activity, serving as a vital source of foreign exchange; indispensable for financing imports, stabilizing the national currency, settling outstanding loans, and addressing balance-of-payments difficulties. Recognizing the pivotal role of exports, this in depth article undertakes a meticulous examination of Pakistan's export trends over the last 15 years, spanning the period from 2009 to 2023.

This comprehensive report focuses on four pivotal sectors—Textile, Food, Petroleum, and Manufacturing. Through a detailed analysis of export trends within these sectors, the report aims to unravel the intricacies of Pakistan's economic journey, offering valuable insights into the challenges and opportunities that have shaped its export landscape. By delving into sector-specific dynamics, the report seeks to provide a nuanced understanding of the factors influencing export patterns and contributing to the broader economic narrative. In doing so, it aims to serve as a valuable resource for policymakers, businesses, and investors keen on navigating the complex terrain of Pakistan's economic landscape.

Tech Renaissance discusses the evolving global landscape marked by the rise of the digital economy and society, emphasizing the critical role of Information and Communications Technologies (ICTs) as key enablers. Focusing on Pakistan's IT sector, the article highlights the substantial contribution of over 19,000 ICT companies, with approximately 6,000 engaged in exporting ICT products and services to more than 120 countries. Despite challenges posed by the COVID-19 pandemic, the ICT sector contributed around 1% to Pakistan's GDP in the fiscal year 2021. The report underscores the unique advantages of the IT sector, such as its short gestation period, ability to drive innovation and productivity, export potential, and significant depth for employment generation. However, it outlines key challenges, including limited access to finance, inadequate infrastructure, a shortage of skilled human resources, weak regulatory support, and low awareness and adoption of digital technologies. To unlock the sector's full potential, the report recommends comprehensive measures, including investments in digital infrastructure, enhancing IT education, and skills development, and improving the policy environment. The conclusion emphasizes the IT sector's pivotal role in economic recovery and growth, urging stakeholders to prioritize and support its development.

Lastly, Lahore on Rails section highlights the benefits of 'DRAW.IO – Process & Flow Chart Tool'. [Draw.io](https://draw.io) is a free tool for creating and collaborating overflow chart maps. It supports BPMN, which is the globally recognized standard for business process notation.

We hope that our readers will find the articles of this publication useful. We welcome suggestions on making the SME Observer a leading publication and information source on the SME sector.

Editor - in - Chief

CEO, SMEDA

Editor

Nadia Jahangir Seth
GM, Policy & Planning

In this Issue

Pakistan Trade Overview:	15 Years of Exports Dynamics 2009 – 2023	2
Technical Note:	Tech Renaissance – A Strategic Concept Note and Action Plan for Advancing Pakistan's IT Sector.....	46
Lahore on Rails:	DRAW.IO – Process & Flow Chart Tools.....	54



Turn Potential into Profit!

Small & Medium Enterprises Development Authority
Ministry of Industries & Production
Government of Pakistan



Pakistan Trade Overview

15 Years of Exports Dynamics 2009 – 2023

Muhammad Asif*



Disclaimer

The purpose and scope of this information memorandum is to introduce the subject matter and provide key information pertaining to export dynamics of Pakistan during last 15 years. All the material included in this document is based on data / information gathered from various secondary sources and is based on certain assumptions. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the factors concerned, and the actual results may differ from the presented information. SMEDA does not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking any activity. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information he / she feels necessary for making an informed decision.

Preamble

Pakistan's economy has witnessed repeating patterns of alternating expansion and contraction known as "boom-bust" cycles throughout its history. These volatile growth patterns can be attributed to a diverse set of economic challenges, which mainly includes limited fiscal capacity, fluctuations in exchange rates, growing current account deficit, inflationary pressures, constraints within the energy sector, and lack of a conducive environment for private sector development.

Furthermore, the country's political instability has contributed greatly to increased economic uncertainty. This increased level of uncertainty has negative consequences at multiple levels, impacting individuals, businesses, and government operations while inhibiting economic stability. Establishing political stability can help reduce uncertainty by offering clear and consistent policy orientations. This, in turn, increases trust among domestic and foreign investors, as well as the business community.

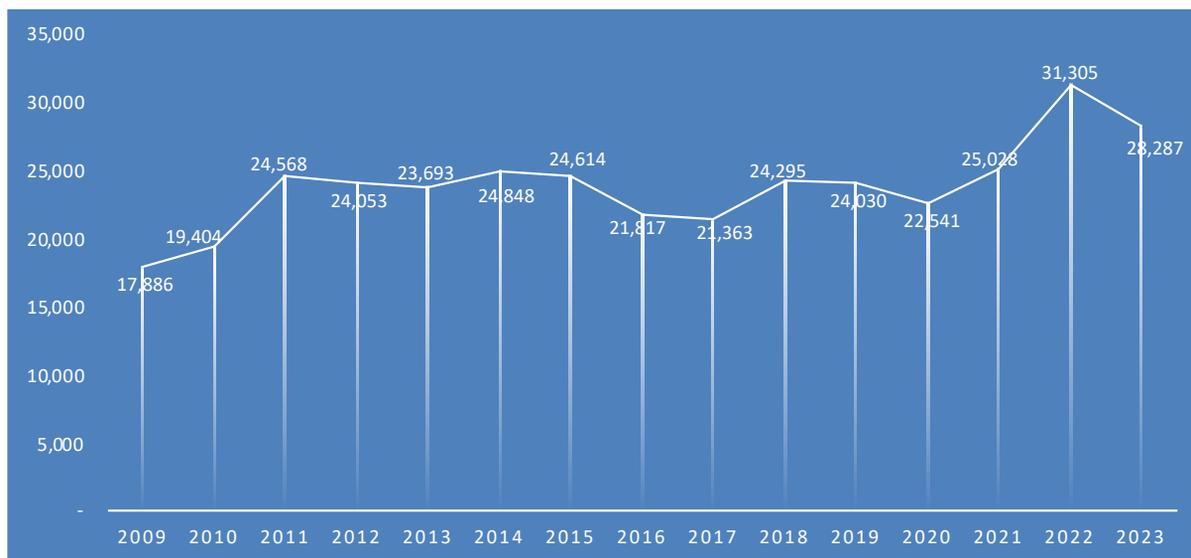
Pakistan's economic development is inextricably linked to its export activity. The importance of exports stems

from its function as an important source of foreign cash for Pakistan. This foreign exchange is required for a variety of key activities, including financing imports, stabilizing the national currency, settling outstanding loans, and addressing balance-of-payments difficulties. This report provides a detailed overview of Pakistan's export trend during the last 15 years period, from 2009 to 2023.

Pakistan's Export Dynamics – 15 Year Perspective

Pakistan's exports have shown ordinary performance during the last fifteen (15) years period i.e., FY 2008 ~ 2023. Export proceeds have grown by an Average Annual Growth Rate (AAGR) of 3.92% and Compounded Average Growth Rate (CAGR) of 3.10% in that period and reached to over USD 28.87¹ billion in FY 2023. The last 15 years exports trend of Pakistan is as follows:

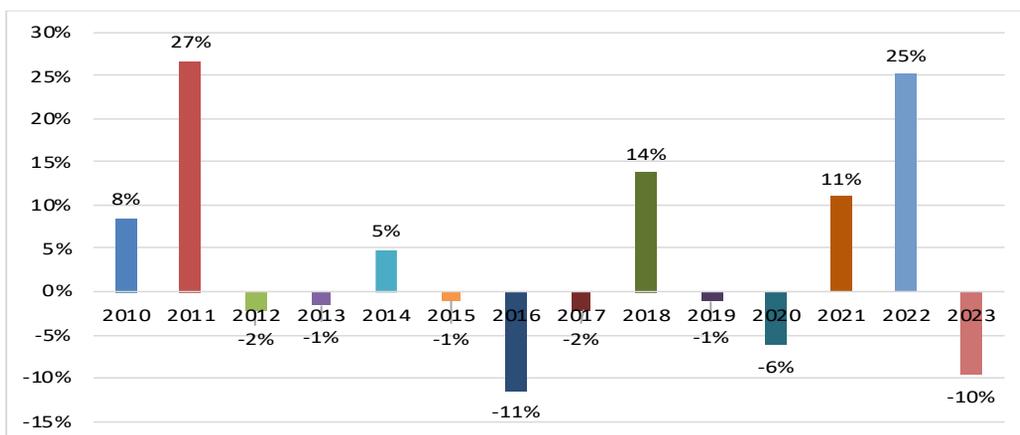
Figure 1: Pakistan's Export Trend 2009-2023 (Value in USD Million)



The YoY percentage changes in export values signify 2011 and 2022 with the highest rise of 27% and 25% respectively, followed by 14% and 11% in the year 2018 and 2021 respectively. Contrary to that, year 2016 reported the highest decline of -11% and -10% in 2023.

¹ State Bank of Pakistan (SBP) and Pakistan Bureau of Statistics (PBS) - Provisional Data for FY 2023

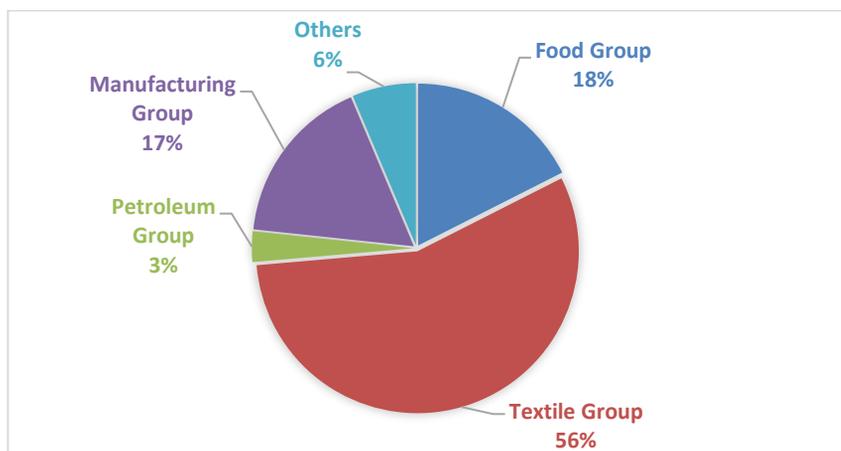
Figure 2: Average Growth Rate (%age) in Export Value Year-on-Year Basis



Sector Wise Export Outlook

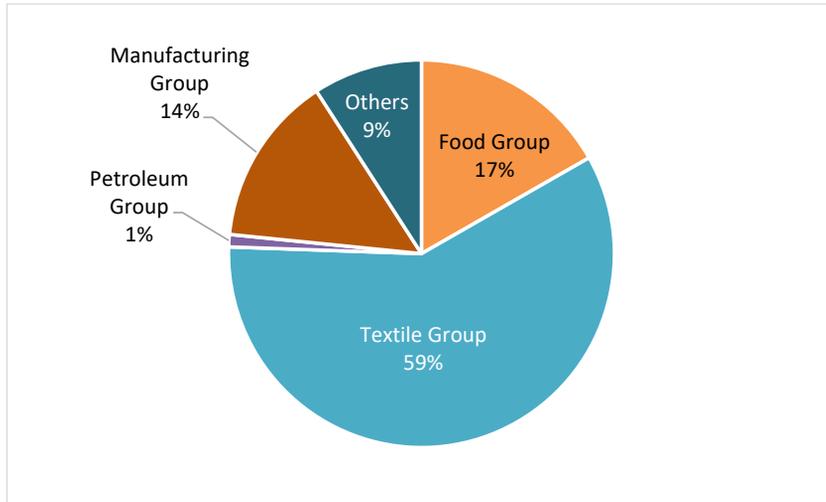
Textile Group continued to be the major contributor to exports of Pakistan. The sector earned an overall export revenue of more than USD 200 billion in last 15 years (i.e., from FY 2009-23) with an average share of 56% of Pakistan’s exports during the same period. After Textiles, Food Group is the second largest contributor to exports with an overall export of above USD 62 billion and average share of 18%, followed by the Manufacturing Group with export value of USD 60 billion and 17% aggregate average share during the past 15 years. The aggregate average share of different sectors of economy in exports during the period from 2009-23 is provided below.

Figure 3: Sector Wise Aggregate Average % Share in Exports from 2009-23



Similarly, comparison between the sector-wise aggregate average share in exports over the last 15 years and the sector-wise export share in FY 2022-23 reveals a consistent pattern. The share of the Food Group remained relatively stable, experiencing only a slight decrease from 18% (on average) to 17% in FY 2022-23, indicating a consistent performance in the export share of food-related commodities over the years. The Textile Group experienced growth, with its share increasing from 56% (average) to 59% in FY 2022-23, which indicates an upward trend in the contribution of textile-related exports to the overall exports during the specified period.

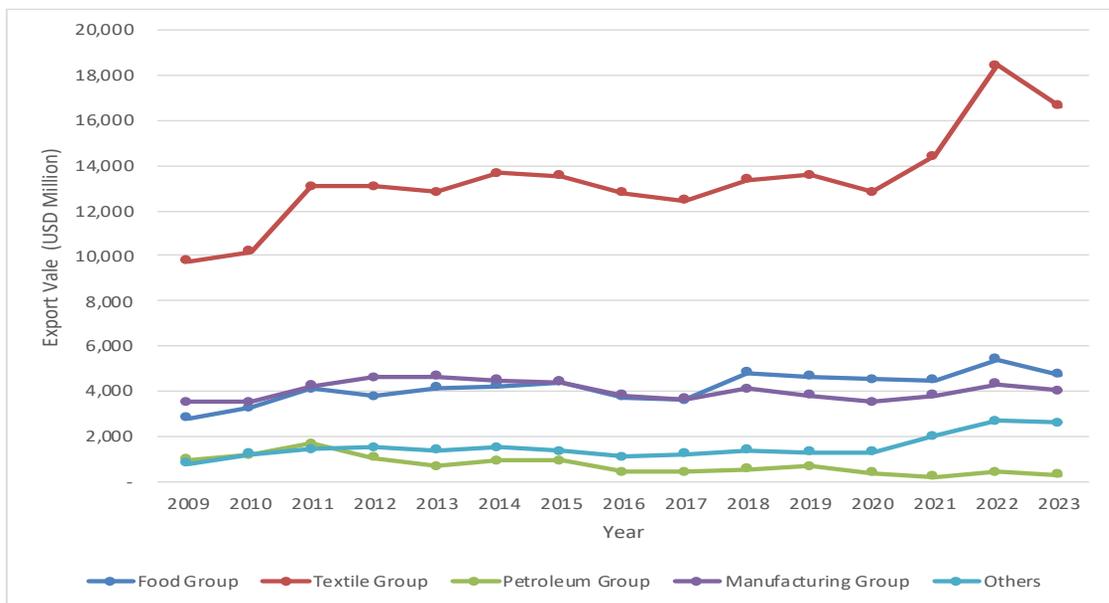
Figure 4: Sector Wise % Share in Pakistan Exports from 2022-23



Contrary to that, Petroleum Group's share declined from 3% (average) to 1% in FY 2022-23, which is a significant decrease suggesting a notable reduction in the contribution of petroleum-related exports to the overall export portfolio. Likewise, Manufacturing Group's share also shows a declining trend from 17% (average) to 14% in FY 2022-23. The "Others" category saw an increase in share, rising from 6% (average) to 9% in FY 2022-23. This indicates that commodities grouped under "Others" collectively had a higher contribution to exports in the most recent fiscal year compared to the average of the last 15 years. The overall trends suggest a minor shift in the composition of Pakistan's exports. While the textile sector has shown growth, the petroleum sector has contracted. The stability in the food and manufacturing sectors, along with the increase in "Others," highlights the minor deviation in Pakistan's export performance.

The sector wise export trend line of Pakistan's exports during the last 15 years is exhibited below.

Figure 5: Sector Wise Exports Trend Line from 2009-23



Over the years, sector wise export analysis presents a similar kind of pattern with Textile Group's share ranging from 52% ~ 58%, followed by Food and Manufacturing Groups with coinciding and swapping shares in between the range of 15% ~ 20%. Hence, overall Textile Group remains the mainstay of export revenue generation and economic development among the Industrial Goods Sector in the country. The sector wise year-on-year exports, change in export values and percentage share in total exports is presented below.

Table 1: Sector Wise Exports from 2009-23 – Export Values in USD Million

Year	Food Group	Textile Group	Petroleum Group	Manufacturing Group	Others	Total Export
2009	2,797	9,776	984	3,511	819	17,886
2010	3,289	10,182	1,183	3,526	1,223	19,404
2011	4,129	13,076	1,706	4,242	1,416	24,568
2012	3,789	13,068	1,059	4,631	1,505	24,053
2013	4,142	12,832	677	4,659	1,383	23,693
2014	4,241	13,659	949	4,479	1,521	24,848
2015	4,402	13,540	921	4,410	1,340	24,614
2016	3,722	12,756	450	3,805	1,084	21,817
2017	3,618	12,457	411	3,659	1,219	21,363
2018	4,818	13,377	575	4,134	1,392	24,295
2019	4,648	13,581	676	3,822	1,304	24,030
2020	4,539	12,799	369	3,522	1,312	22,541
2021	4,504	14,415	235	3,839	2,036	25,028
2022	5,424	18,442	415	4,330	2,693	31,305
2023*	4,742	16,632	291	4,034	2,588	28,287

*Provisional Data

Table 2: Sector Wise %age Share of Different Commodities in Exports from 2009-23

Year	Food Group	Textile Group	Petroleum Group	Manufacturing Group	Others
2009	15.64%	54.66%	5.50%	19.63%	4.58%
2010	16.95%	52.47%	6.10%	18.17%	6.30%
2011	16.81%	53.22%	6.94%	17.26%	5.76%
2012	15.75%	54.33%	4.40%	19.25%	6.26%
2013	17.48%	54.16%	2.86%	19.66%	5.84%
2014	17.07%	54.97%	3.82%	18.02%	6.12%
2015	17.89%	55.01%	3.74%	17.92%	5.44%
2016	17.06%	58.47%	2.06%	17.44%	4.97%
2017	16.93%	58.31%	1.92%	17.13%	5.70%
2018	19.83%	55.06%	2.36%	17.01%	5.73%
2019	19.34%	56.52%	2.81%	15.90%	5.43%
2020	20.14%	56.78%	1.64%	15.63%	5.82%
2021	18.00%	57.59%	0.94%	15.34%	8.13%
2022	17.33%	58.91%	1.33%	13.83%	8.60%
2023	16.76%	58.80%	1.03%	14.26%	9.15%

There are instances of both positive and negative growth in Pakistan's exports across different commodity groups over the years. While there are periods of significant growth in some sectors, there are also years with negative growth. This suggests a level of variability rather than outright stagnation. However, it's important to note that the export performance of each commodity group might be influenced by a variety of factors, including global economic conditions, market demand, government policies, and industry-specific challenges.

Table 3: Sector Wise Year-on-Year %age Change in Exports of Different Commodity Groups from 2009-23

Year	Food Group	Textile Group	Petroleum Group	Manufacturing Group	Others
2010	18%	4%	20%	0%	49%
2011	26%	28%	44%	20%	16%
2012	-8%	0%	-38%	9%	6%
2013	9%	-2%	-36%	1%	-8%
2014	2%	6%	40%	-4%	10%
2015	4%	-1%	-3%	-2%	-12%
2016	-15%	-6%	-51%	-14%	-19%
2017	-3%	-2%	-9%	-4%	12%
2018	33%	7%	40%	13%	14%
2019	-4%	2%	18%	-8%	-6%
2020	-2%	-6%	-45%	-8%	1%
2021	-1%	13%	-36%	9%	55%
2022	20%	28%	77%	13%	32%
2023	-13%	-10%	-30%	-7%	-4%
AAGR	4.44%	4.14%	-0.65%	1.34%	9.78%
CAGR	3.58%	3.61%	-7.81%	0.93%	7.97%

The comparative analysis of the average and compound growth rates of Pakistan's exports across various commodity groups over the past 15 years reveals distinct trends. The food group consistently displayed positive growth, with both AAGR and CAGR signaling a continuous rise in exports. This indicates a resilient and robust performance in the export of food products throughout the entire period. Similarly, the textile sector exhibited positive growth, albeit at slightly lower rates, reflecting a stable and positive trend in textile exports over the 15-year period. The manufacturing goods sector also experienced positive growth, but at a more moderate pace compared to the food and textile groups, indicating a steady but slower expansion in manufacturing goods exports. In contrast, the petroleum group stands out as the sole category with negative growth rates, signifying a decline in exports. This may suggest challenges or shifts in the global petroleum market affecting Pakistan's export performance in this category. Lastly, the 'Others' category exhibits the highest positive growth rates among the groups, indicating a significant and consistent expansion in exports. This product category includes diverse products contributing substantially to the overall positive export trend.

Textile Group

The textile industry in Pakistan significantly influences the economy by making up to 55%-60% of all exports from the country. During last 15 years (i.e., from FY 2009-23), this sector continued to be the largest export earner with an AAGR of 4.14% and CAGR of 3.58%, which is higher than the overall export growth rate of Pakistan. During the FY 2023, textile sector has generated export earnings of more than USD 16 billion.

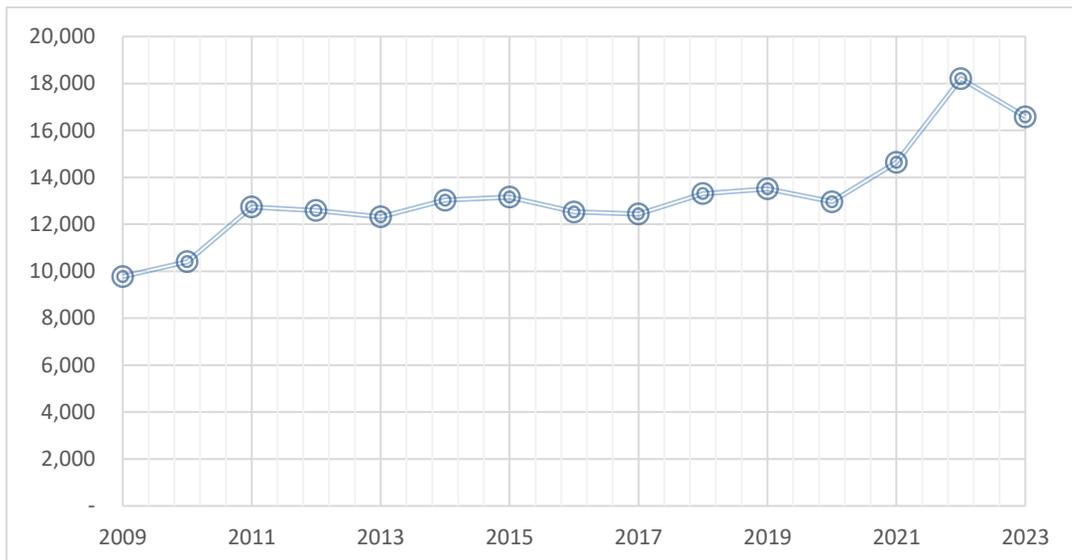
Key exports from this sector encompass Knitwear, Ready-to-wear Clothing, Bed Linens, and Cotton Fabrics. The last 15 years exports trend of textile group is as follows.

Table 4: Pakistan's Textile Group Exports 2009-23 (USD Billion)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Bn.	9.8	10.4	12.7	12.6	12.3	13.0	13.2	12.5	12.4	13.3	13.5	12.9	14.6	18.2	16.6

*Provisional Data

Figure 6: Exports Trend Line for Textile Group from 2009-23 (Export Value in USD Million)

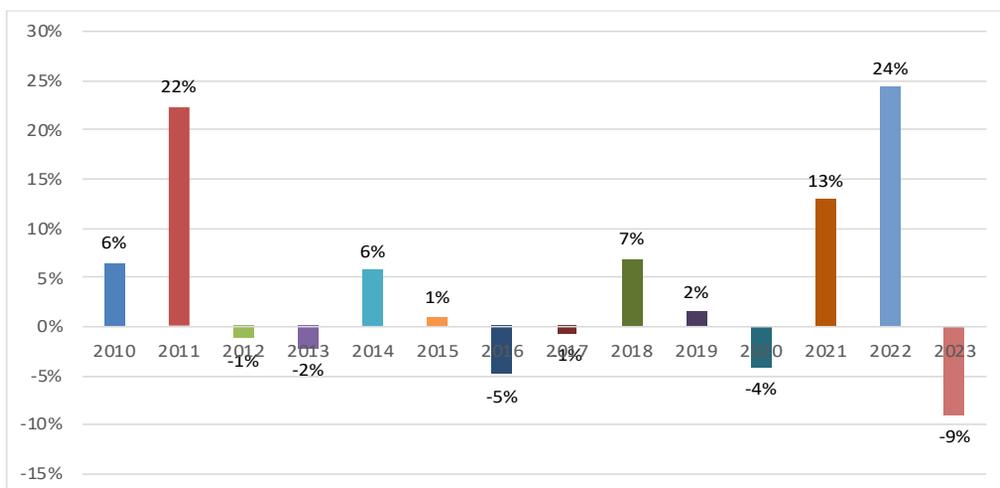


Provisional Data for 2023

Over the 15-year period, Pakistan's textile exports have shown a general upward trend, with a notable increase in recent years. The export value increased from USD 9,776 million in 2009 to USD 16,584 million in 2023. This represents a substantial overall growth. From year-on-year context, the period from 2009 to 2011 saw significant growth, with exports increasing from USD 9,776 million to \$12,739 million i.e., around 22% rise in export value in 2011. This period is characterized by strong export performance. After 2011, there was a slight decline in exports in 2012, but the figures remained relatively stable through 2014.

In 2014, there was a notable increase in exports, reaching USD 13,032 million, which continued through 2019. There was a slight dip in 2020, likely influenced by the COVID-19 pandemic, but exports rebounded in 2021 and 2022 posting a substantial growth, with exports increasing from USD 12,964 million in 2020 to USD 18,206 million in 2022. This represents a remarkable growth of over 40% in just two years.

Table 5: Percentage Change in Export Value of Textile Group Year-on-Year Basis



In a nutshell, Pakistan's textile export data over the last 15 years shows periods of growth, stability, and slight decline. Notable recent growth in 2021 and 2022 is encouraging, and further analysis is needed to understand the drivers behind this expansion. However, analysis of specific export markets, industry innovation and government policies is further required to draw more consequential conclusions.

Among the Textile Group, Knitwear and Readymade Garments holds the highest share (combined share of more than 35%) followed by Bed Wear (around 17% share) and Cotton Cloth (around 15% share). So, from value added perspective, around 70% of the textile exports from Pakistan are finished goods items. The share of different product items in exports of textile group is provided in the pie charts below.

Table 6: Product Wise Aggregate Average % Share in Textile Exports 2009-23

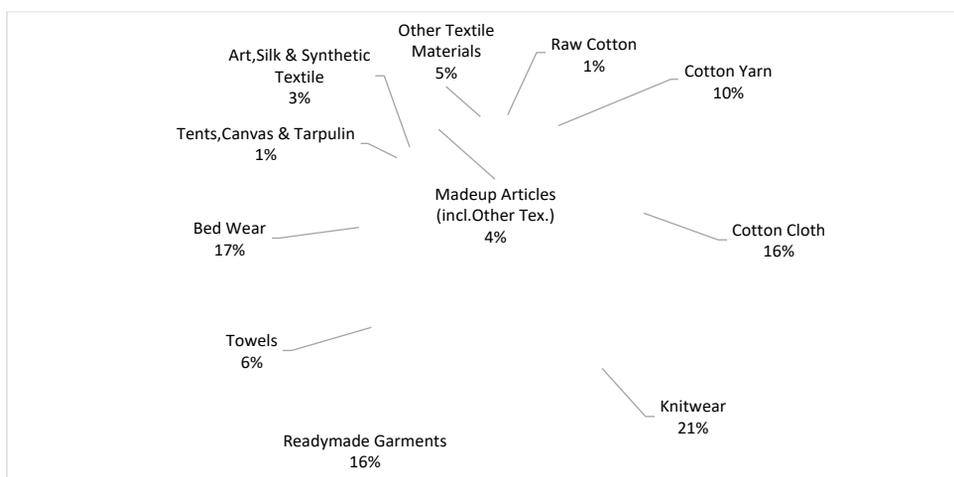
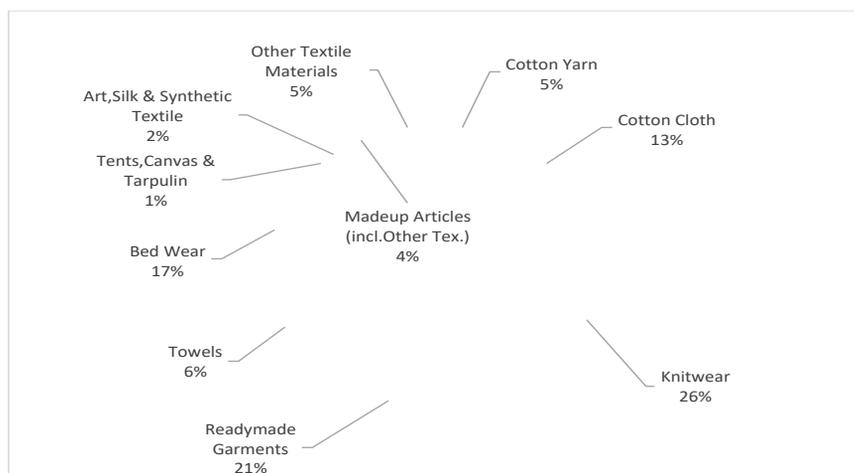


Table 7: Product Wise % Share in Textile Export in 2023



The comparative analysis of product wise aggregate average %age share in last 15 years with the shares in FY 2023, reflects that Pakistan’s textile exports performance is primarily dependent on Knitwear and Readymade Garments, as other products share remains slightly stable while the major fluctuation is in the said product categories.

Table 8: Product Wise Export Values of Textile Group from 2009-23 (USD Million)

Years	Raw Cotton	Cotton Yarn	Yarn Other than Cotton	Cotton Cloth	Knitwear	Readymade Garments	Towels	Bed Wear	Tents, Canvas & Tarpulin	Art, Silk & Synthetic Textile	Madeup Articles (incl. Other Tex.)	Other Textile Materials
2009	105	989	70	2,243	2,055	983	547	1,527	61	387	330	478
2010	209	1,238	47	2,239	2,061	964	603	1,641	76	409	328	595
2011	310	1,786	59	2,263	2,709	1,092	633	2,027	81	629	372	779
2012	480	1,693	62	2,225	2,293	1,422	685	1,907	94	651	406	671
2013	167	2,064	41	2,141	2,015	1,652	701	1,835	126	430	433	712
2014	208	2,053	42	2,130	2,194	1,834	756	2,062	109	426	567	650
2015	153	1,818	40	2,134	2,264	2,044	716	2,207	132	357	665	628
2016	77	1,266	28	2,190	2,309	2,156	721	2,126	108	276	701	573
2017	41	1,140	21	2,159	2,335	2,279	679	2,157	147	263	672	549
2018	57	1,249	30	2,109	2,615	2,477	750	2,346	85	295	733	561
2019	21	1,202	32	2,108	2,854	2,568	713	2,347	86	284	701	597
2020	18	1,081	41	2,107	2,688	2,595	680	2,230	92	298	585	549
2021	2	922	34	2,107	3,372	2,820	882	2,691	119	343	673	672
2022	7	1,201	67	2,109	4,520	3,699	1,081	3,256	115	415	807	928
2023*	13	870	60	2,108	4,244	3,495	931	2,802	131	389	687	854

*Provisional Values

The product wise AAGR, CAGR and growth analysis of Textile Group exports during the last 15 years period is provided in the table below.

Table 9: Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
---------------------	------	------	----------

Raw Cotton	18.7%	-12.8%	Has a very high average annual growth rate (AAGR), indicating significant year-to-year growth. However, the negative compound annual growth rate (CAGR) suggests that this growth has not been sustained and may have declined over the specified period.
Cotton Yarn	1.2%	-0.8%	Modest positive growth in AAGR but negative CAGR denotes decline and fluctuations
Yarn Other than Cotton	3.5%	-1.1%	Similar to Raw Cotton, this category has a positive AAGR but a negative CAGR, indicating fluctuations in growth.
Cotton Cloth	-0.4%	-0.4%	Has a slight decline in both AAGR and CAGR, suggesting a relatively stable but decreasing trend.
Knitwear	5.9%	5.0%	Exhibits steady and positive growth in both AAGR and CAGR, indicating a stable and growing category.
Readymade Garments	9.3%	8.8%	Show strong growth in both AAGR and CAGR, making it one of the fastest-growing categories.
Towels	4.2%	3.6%	Experience positive growth, with both AAGR and CAGR showing steady increases.
Bed Wear	4.7%	4.1%	Displays consistent growth in both AAGR and CAGR, indicating stability and positive trends.
Tents,Canvas & Tarpulin	7.5%	5.2%	Exhibits strong annual growth in both AAGR and CAGR, suggesting a robust and expanding segment.
Art,Silk & Synthetic Textile	1.8%	0.0%	Experiences low but positive growth in AAGR, with a stable CAGR indicating consistent performance.
Madeup Articles (incl.Other Tex.)	5.8%	5.0%	Substantial growth in both AAGR and CAGR, indicating a robust and growing sector.
Other Textile Materials	5.0%	3.9%	Show steady growth, with both AAGR and CAGR pointing to positive trends.

In general, the textile group exhibits a mix of growth patterns across various product categories. While some categories show strong, sustained growth (e.g., Readymade Garments and Tents, Canvas & Tarpaulin), others experience fluctuations or declining trends (e.g., Raw Cotton and Cotton Yarn). Understanding these growth patterns is crucial for businesses to make informed decisions and investments in different segments of the textile industry.

Food Group

Agriculture sector is paramount for ensuring food security, rural livelihood, employment generation and promotion of rural economic development in Pakistan. In addition to that it provides industrial raw material, hence growth in this sector has multiple linkages with the overall economy. The sector contributes over 22 percent to the GDP and provides employment to around 40 percent of the labour force². The improvement in agriculture production systems will increase farm income, reduce consumer prices and enhance diverse food supplies besides generating an exportable surplus.

The food sector is the 2nd largest group contributor to Pakistan's exports after textiles. It accounts for around 16%~20% share on average in total exports. During last 15 years (i.e., from FY 2009-23), this sector continued to be a good earner with an AAGR of 5% and CAGR of 3.6%, which is higher than the overall export growth rate of Pakistan, as well as higher than the textile group.

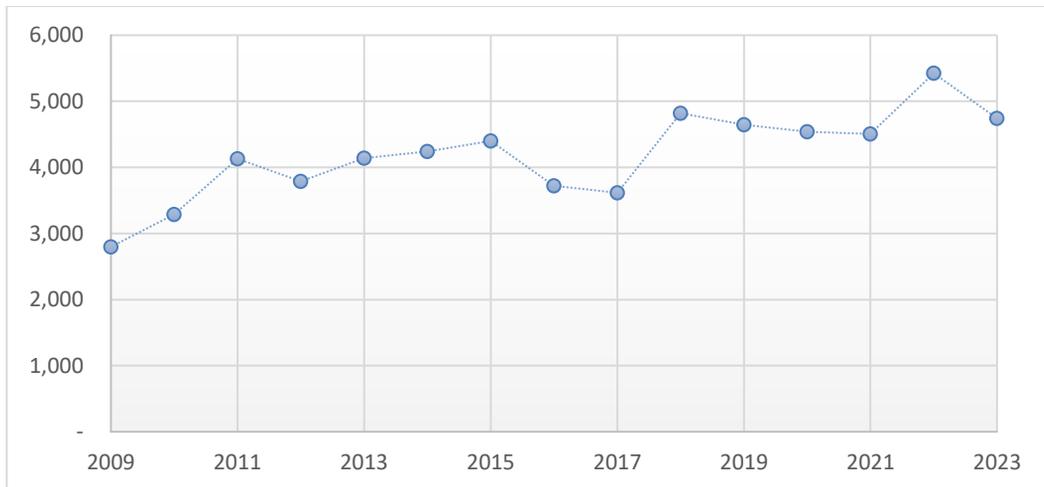
During the FY 2023, food sector has generated export earnings of USD 4.74 billion. The last 15 years exports trend of food group is exhibited below.

Table 10: Pakistan's Food Group Exports 2009-23 (USD Billion)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Bn.	2.80	3.29	4.13	3.79	4.14	4.24	4.40	3.72	3.62	4.82	4.65	4.54	4.50	5.42	4.74

*Provisional Data

Figure 7: Exports Trend Line for Food Group from 2009-23 (Export Value in USD Million)



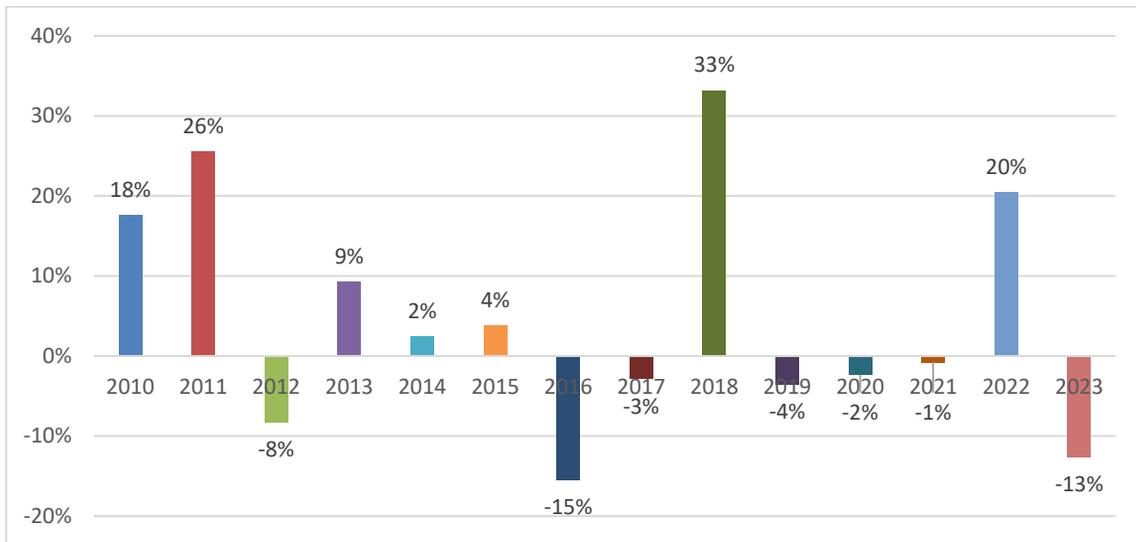
Provisional Data for 2023

Pakistan's food group export value seems to have experienced fluctuations over the last 15 years. There is an overall increasing trend, especially in recent years. The export value increased from USD 2,797 million in 2009 to USD 4,743 million in 2023. From year-on-year context, the period from 2018 and onwards shows stability and upwards trend in the exports. The highest export value is observed in 2022, reaching 5.42 billion US dollars. This

² Economic Survey of Pakistan 2023

could be a result of various factors such as increased demand, improved crop production, or favorable market conditions. Overall, food group presents positive signs for progression and export potential for Pakistan's economy.

Figure 8: Percentage Change in Export Value of Food Group Year-on-Year Basis



In summary, the year-on-year performance of the food group's export value, from year 2009 ~ 23, in Pakistan has shown both positive and negative trends. There are periods of significant growth, as well as periods of decline. Investigating the factors influencing these changes in each specific year would provide deeper insights into the dynamics of the food export market in Pakistan.

Within the Food Group, Rice holds the highest share with up to 50% followed by Fish & Fish Preparation (around 10% share) and Fruits (around 5% ~ 8% share). So, from export perspective Rice, as commodity, presents the highest export potentials over the years. The share of different product items in exports of food group is provided in the blows pie charts.

Figure 9: Product Wise Aggregate Average % Share in Food Group Exports 2009-23

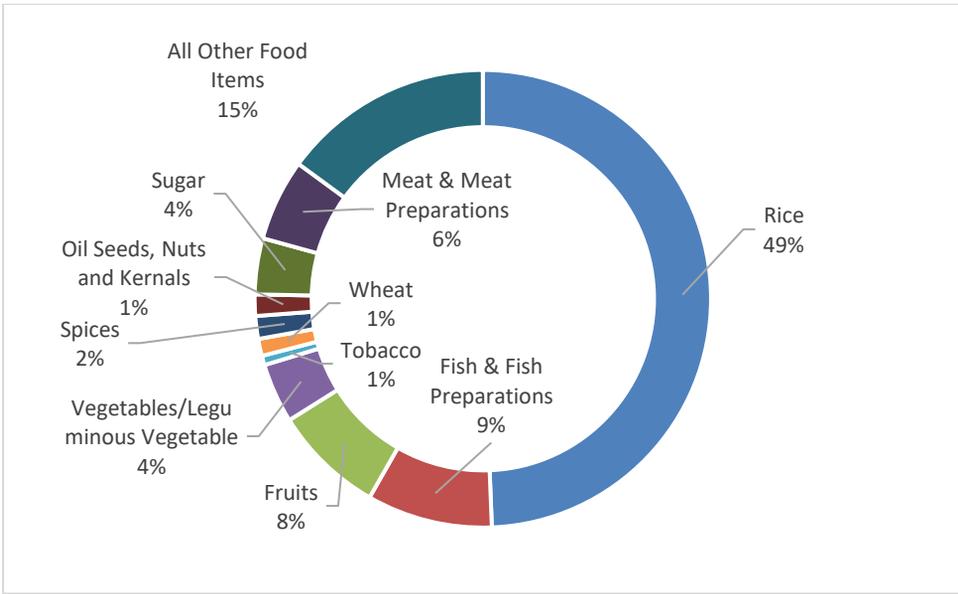
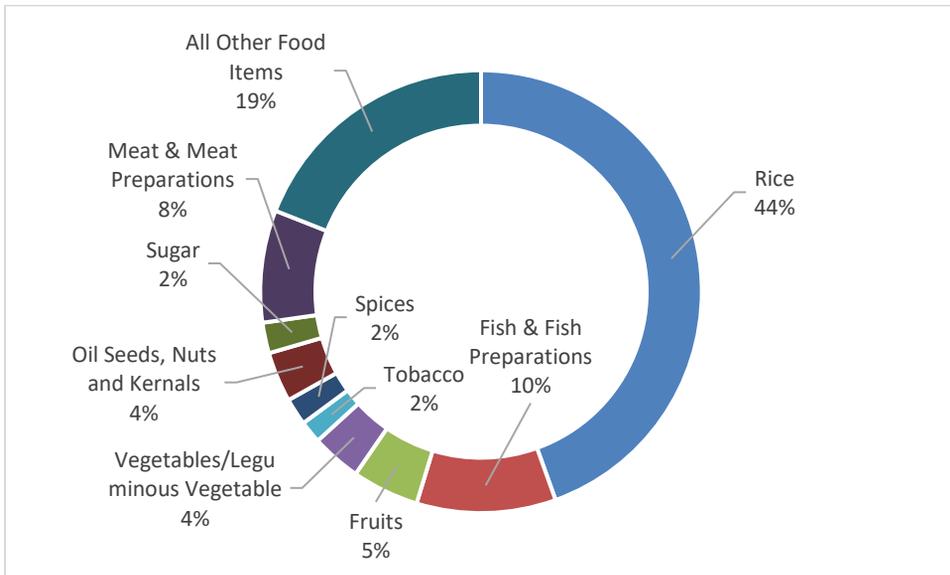


Figure 10: Product Wise % Share in Food Group Export in 2023



The comparative analysis of product wise aggregate average %age share in last 15 years with the shares in FY 2023, reflects that Pakistan’s food group exports performance is largely dependent on Rice exports, as other products share remains slightly stable. The Oil Seed, Nuts and Kernals showing a major jump from 1% average share to exclusively 4% share in the FY 2023. It reveals that potential diversification and export opportunity in the category of Oil Seed, Nuts and Kernals is rising, which is very promising because traditionally the food sector exporters are heavily reliant on exports of rice from Pakistan.

Table 11: Product Wise Export Values of Food Group from 2009-23 (USD Million)

Year	Rice	Fish & Fish Preparations	Fruits	Vegetables/ Leguminous Vegetable	Tobacco	Wheat	Spices	Oil Seeds, Nuts and Kernals	Sugar	Meat & Meat Preparations	All Other Food Items
2009	1,766	238	162	70	9	0	19	46	6	85	395
2010	2,135	220	230	118	14	0	27	45	-	119	381
2011	2,118	296	275	185	26	491	29	18	0	189	501
2012	2,075	339	243	119	23	62	38	27	21	212	630
2013	1,876	336	284	140	28	30	41	50	431	224	702
2014	2,108	367	310	146	26	3	57	69	305	237	612
2015	2,038	366	418	167	14	0	66	60	284	264	725
2016	1,853	328	330	150	8	0	83	19	110	238	604
2017	1,575	391	308	107	19	3	91	31	198	224	670
2018	1,933	489	396	171	18	115	80	33	683	211	688
2019	2,163	460	438	261	25	46	88	67	237	242	621
2020	2,274	418	426	313	35	5	91	30	105	310	533
2021	2,211	419	470	274	36	-	103	85	-	352	554
2022	2,771	438	399	255	57	-	106	193	-	327	879
2023	2,111	484	232	172	78	-	93	174	106	389	903

The commodity wise AAGR, CAGR and growth analysis of Food Group exports during the last 15 years period is provided in the table below.

Table 12: Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Rice	2.3%	1.2%	Has a modest average annual growth rate (AAGR) as well as compound annual growth rate (CAGR) indicating stable year-to-year change in export values. It shows that despite leading the food group, the sector has not showed substantial growth in exports.
Fish & Fish Preparations	5.9%	4.8%	Exhibits strong annual growth in both AAGR and CAGR, suggesting a robust and expanding segment.
Fruits	5.2%	2.4%	Shows steady and positive growth in both AAGR and CAGR, indicating a stable and growing category.
Vegetables / Leguminous Vegetable	12.0%	6.2%	Displays very strong and persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports.
Tobacco	25.9%	15.3%	Very strong growth in both AAGR and CAGR, making it one of the fastest-growing categories. May be recognized as emerging category for exports.
Wheat	287.5%	-100.0%	An exceptionally Very strong growth in both AAGR and CAGR, the category is heavily affected by the crop yields, climatic changes and Government restrictions to exports to meet local demands. Wheat is the main staple food crop in Pakistan; therefore, it is considered a highly

			sensitive commodity in terms of food security and local consumption.
Spices	13.3%	11.3%	Similar to Tobacco, very strong and substantial growth in both AAGR and CAGR, making it one of the fastest-growing categories. Should be considered and recognized as key export category for future.
Oil Seeds, Nuts & Kernals	32.0%	9.2%	Exceptional growth in both AAGR and CAGR, indicating huge export potential. Should be focused and recognized as key export category for future.
Sugar	473.2%	20.6%	Sugar has a very high AAGR of 473.2%, suggesting substantial average annual growth. However, the CAGR is 20.6%, which is still high but much lower than the AAGR. Similar to wheat, sugar is also highly sensitive in terms of local consumption and Government policy restriction on exports.
Meat & Meat Preparations	12.8%	10.6%	Substantial growth in both AAGR and CAGR, indicating a robust and growing sector.
All Other Food Items	7.8%	5.7%	Experience positive growth, with both AAGR and CAGR showing steady increases.

Overall, many food commodities, including Rice, Fish & Fish Preparations, Fruits, Vegetables/Leguminous Vegetable, Spices, Oil Seeds, Nuts, and Kernals, and Meat & Meat Preparations, have shown positive AAGR and CAGR. This indicates a generally positive growth trend in the export of these food items over the specified period. Sugar stands out with an exceptionally high AAGR of 473.2% and a high CAGR of 20.6%. This suggests a substantial and consistent growth in the export of sugar from Pakistan over the last 15 years. The positive growth across a range of food commodities suggests a level of diversification in Pakistan's food exports. This diversification can be beneficial for the overall stability of the export sector.

Petroleum Group

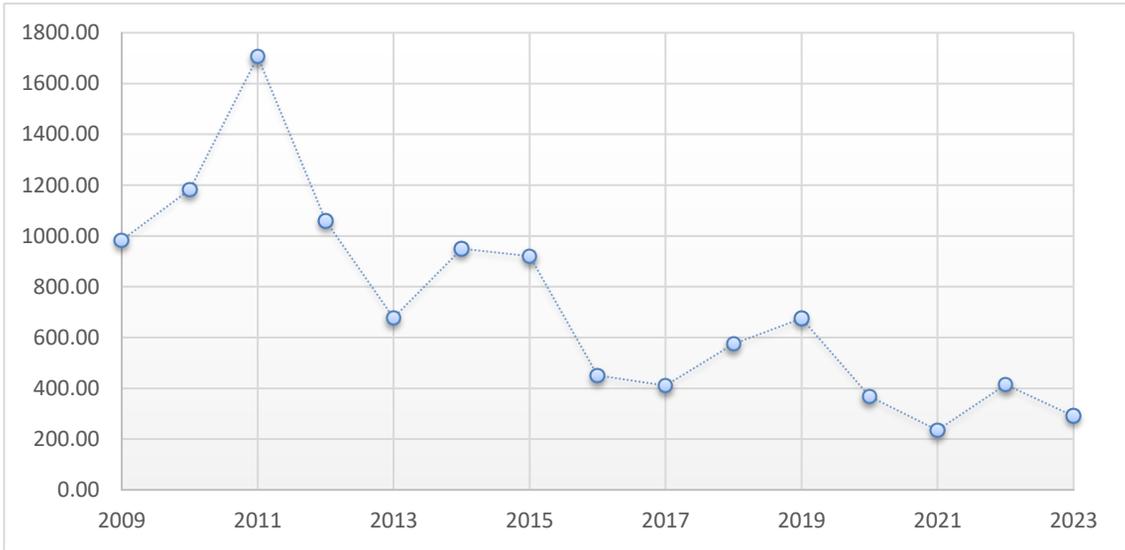
Pakistan is typically an import-reliant nation in fuel and petroleum products. However, Pakistan does have minor exports of Petroleum Products over the years. The Petroleum Group stood at USD 290 million and reported a decline of 43% during FY 2023 as compared to same period last year. Overall, sector has decreasing trend in export values during the last 15 years period, as the exports decreased from USD 983.53 million in 2009 to USD 290.52 million in 2023, experiencing a massive decline. Similarly, the negative AAGR of -0.7% and CAGR of -0.7.8% displays the substantial decline in exports of petroleum group. The last 15 years exports trend of petroleum group is presented below.

Table 13: Pakistan's Petroleum Group Exports 2009-23 (USD Billion)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Bn.	0.98	1.18	1.71	1.06	0.68	0.95	0.92	0.45	0.41	0.57	0.68	0.37	0.23	0.41	0.29

*Provisional Data

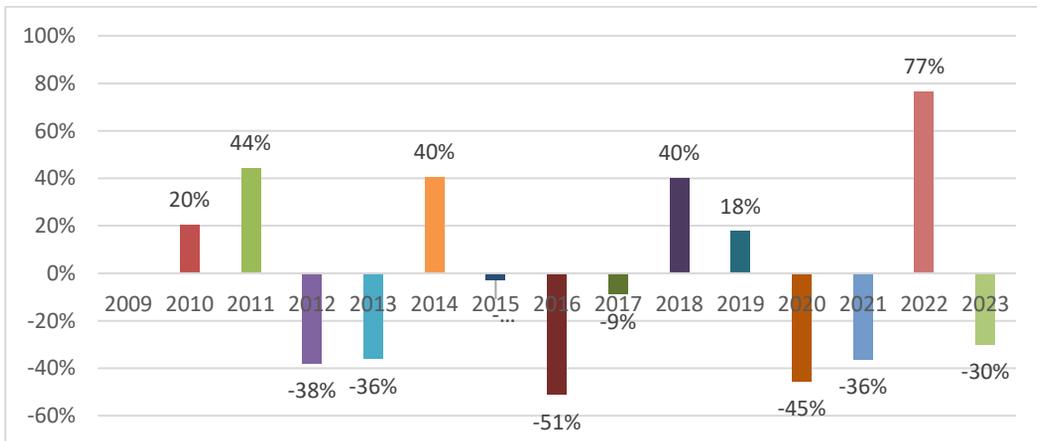
Figure 11: Exports Trend Line for Petroleum Group from 2009-23 (Export Value in USD Mn)



The analysis of yearly export values for petroleum group from 2009 to 2023 demonstrates very skewed trends over the 15-year period. There is period of impressive growth from 2009-11, followed by a steep decline during 2012-13. Subsequently, upward and downward trend in the export value continued till 2023. The export values reached at the highest peak with USD 1,705 million in 2011. However, starting from 2013 the export value went below the USD 1,000 million mark and continued to skew between the range of USD 700 ~ 300 millions.

There is an overall decreasing trend in petroleum group exports during the period of 2009-23, as clearly illustrated from following bar diagram of percentage change in export values from year-on-year basis.

Figure 12: Percentage Change in Export Value of Petroleum Group Year-on-Year Basis



The YoY percentage changes in export values indicate 2022 with the highest rise of 77% followed by 44% and 40% in the year 2011 and 2014 respectively. Contrary to that, year 2016 reported the highest decline of -51% and -45% in 2020.

Shares of different products within the Chemical and Pharmaceutical Group is provided in the pie charts below.

Figure 13: Product Wise Aggregate Average % Share in Petroleum Group 2009-23

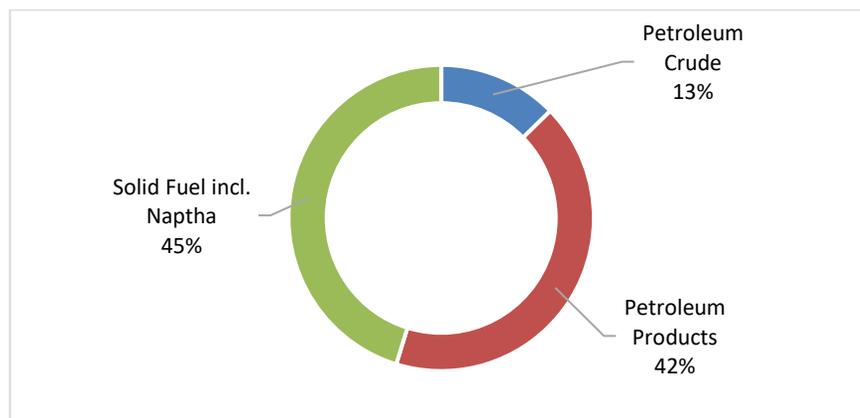
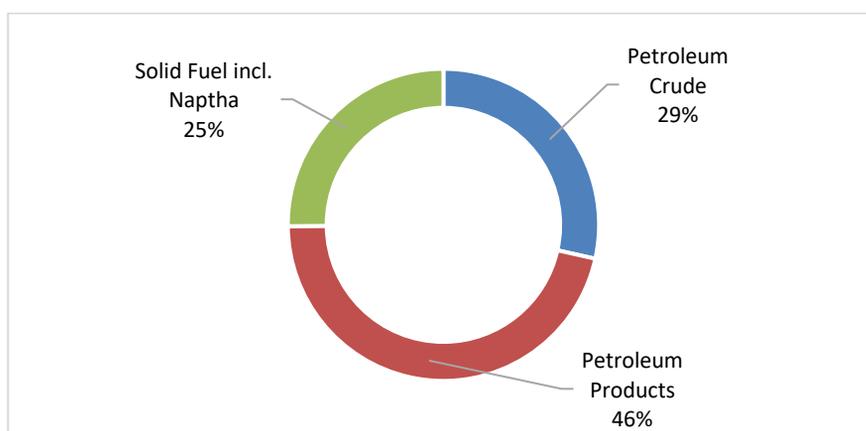


Figure 14: Product Wise Aggregate Average % Share in Petroleum Group 2023



The product wise values of export of different items in the chemical and pharmaceutical group from 2009 to 2023 is provided in the following table.

Table 14: Product Wise Export Values of Petroleum Group from 2009-23 (USD Million)

Years	Petroleum Crude	Petroleum Products	Solid Fuel incl. Naptha
2009	-	628.40	355.17
2010	-	1008.35	174.73
2011	-	1308.05	397.65
2012	-	473.61	585.76
2013	-	110.54	566.47
2014	20.83	222.40	706.15
2015	202.58	135.73	582.74
2016	0.46	107.76	341.98
2017	6.96	83.17	320.59
2018	3.18	226.22	345.11
2019	258.27	171.87	245.51
2020	172.29	75.64	120.75

2021	79.21	33.25	122.49
2022	134.56	70.67	209.60
2023	82.76	134.72	73.03

**Provisional Data*

The commodity wise AAGR, CAGR and growth analysis of Petroleum Group exports during the last 15 years period is provided in the table below.

Table 15: : Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Petroleum Crude	1120%	15%	CAGR of 15% represents a strong growth in the product category, whereas extremely high AAGR is due to strong fluctuation in export value in 2015 and 2019 that may be incidental.
Petroleum Products	7%	-10%	The substantial positive AAGR indicates strong average annual growth, but the high negative CAGR implies a massive decline in exports with compounding effects. The export progress is not stable and sustained, have been heavily influenced by certain export surge and fluctuation.
Solid Fuel incl. Naptha	-6%	-10%	Both the negative AAGR and CAGR suggest a massive decline in exports for solid fuels category, with compounding effects. This product category might be facing challenges or changes affecting its export performance.

Manufacturing Group

Engineering Goods

In the Financial Year 2023, the export value of engineering goods amounted to USD 261.34 million, showing a 17% decline compared to the corresponding period of the previous year. Overall, sector has performed below par during the last 15 years period, as the exports decreased from USD 347.50 million in 2009 to USD 261.34 million in 2023, experiencing a massive negative rate of -25% in comparison to 2009. Similarly, the negative AAGR of -1.9% and CAGR of -0.43% exhibits the continued decline in exports of engineering goods.

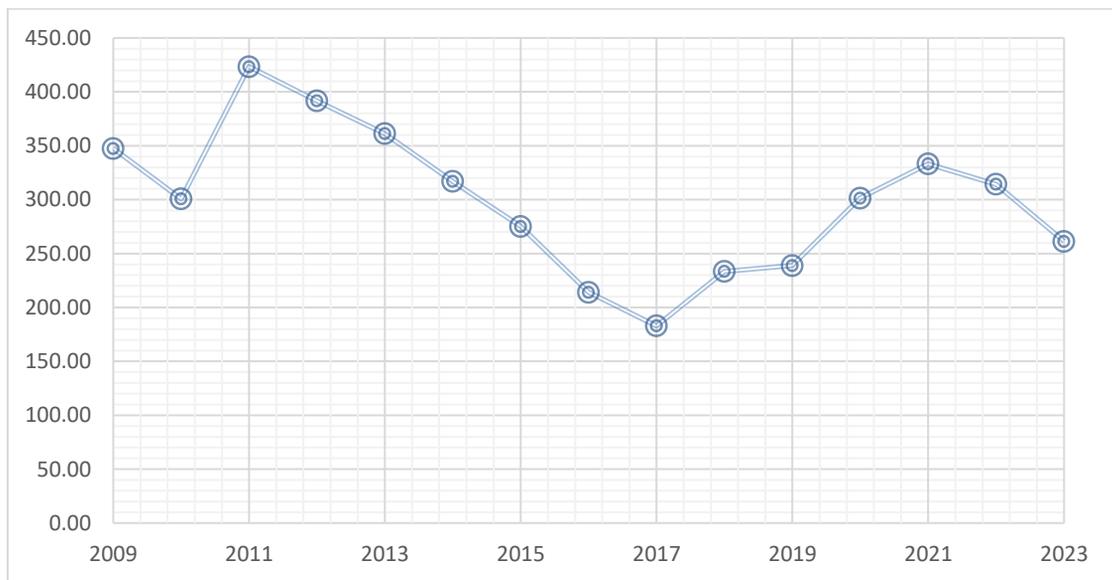
The last 15 years exports trend of engineering goods is exhibited below.

Table 16: Pakistan’s Engineering Goods Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	347	301	423	392	361	317	275	214	183	233	239	302	333	314	261

*Provisional Data

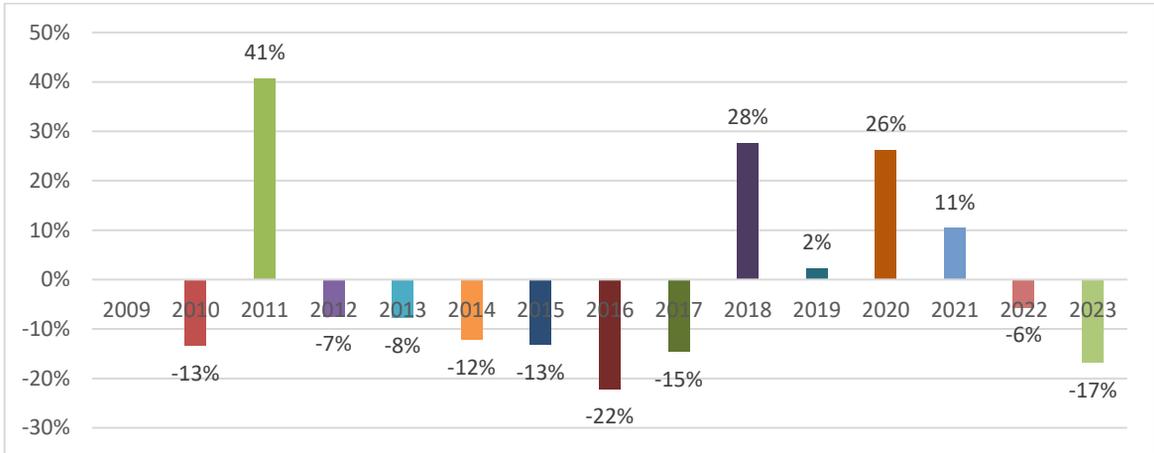
Figure 15: Exports Trend Line for Engineering Goods from 2009-23 (Export Value in USD Million)



The yearly export values of engineering goods indicate a fluctuating trend over the past 15 years. The export values started at USD 347.50 million in 2009, reaching peak value of USD 423 million in 2011 and afterwards experienced a gradual decline, especially from 2014 to 2017, reaching the lowest point in 2017 at USD 182.89 million. This period may have been influenced by various economic factors or challenges faced by the engineering goods sector.

Subsequently, year 2018, 2020, and 2021 show substantial positive growth, suggesting a strong rebound in those years. However, most recent years again shows a steep decline in export value from 2021 to 2022 (USD 333.16 million to USD 314.26 million) and a further decrease in 2023 to USD 261.34 million.

Figure 16: Percentage Change in Export Value of Engineering Goods Year-on-Year Basis



The YoY percentage changes in export values signify 2011 with the highest rise of 41% followed by 28% and 26% in the year 2018 and 2020 respectively. Contrary to that, year 2016 reported the highest decline of -22% and -17% in 2023.

Among the Engineering Goods, Other Machinery & Parts have the highest share in exports with up to 35% followed by Electric Machinery (more than 20% share), Transport Equipment (8% ~ 18% share) and Specialized Machinery (around 15% share). The share of different product items in exports of engineering goods is provided in the blows pie charts.

Figure 17: Product Wise Aggregate Average % Share in Engineering Good 2009-23

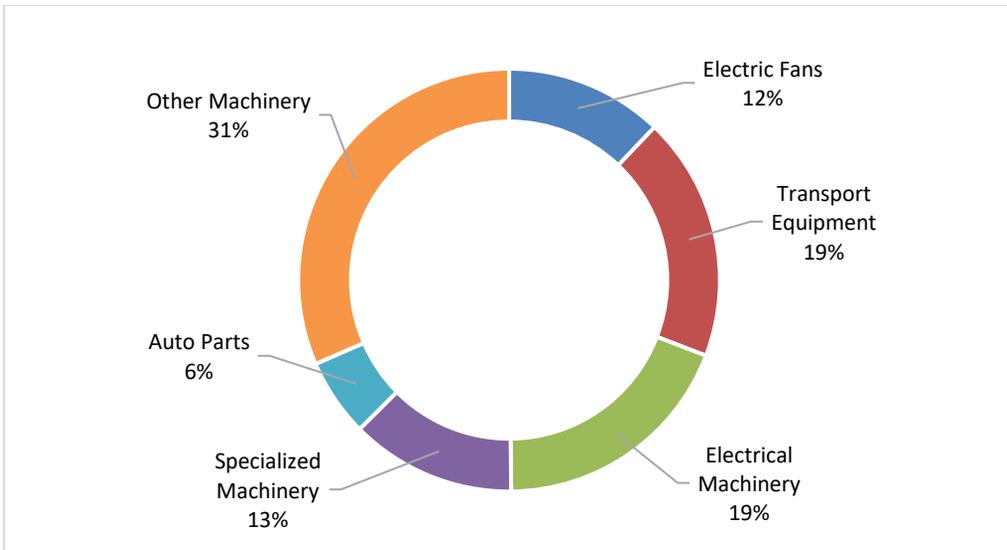
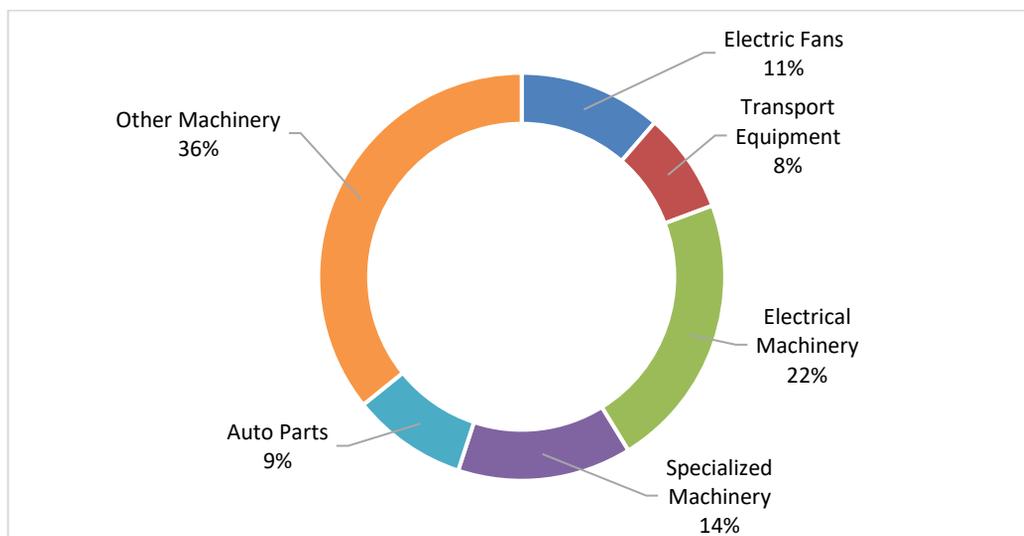


Figure 18: Product Wise % Share in Engineering Goods Export in 2023



The comparative analysis of product wise aggregate average %age share in last 15 years with the shares in FY 2023, reflects that Pakistan’s engineering goods exports performance is largely outperformed by the Other Machinery & Parts category followed by Electrical Machinery. The share of these two categories is quite similar over the years, however, electrical machinery share is on the rising side. Whereas, transport equipment and auto parts shares exhibits contrasting performance with Auto Parts share in 2023 (9%) is higher than the aggregate average share from 2009-23 (6%) and transport equipment share in 2023 (8%) is well below the aggregate average share from 2009-23 (19%). For specialized machinery and electric fans, the percentage share in 2023 portrays a similar composition, as of the aggregate share from 2009-23.

Table 17: Product Wise Export Values of Engineering Goods from 2009-23 (USD Million)

Year	Electric Fans	Transport Equipment	Electrical Machinery	Specialized Machinery	Auto Parts	Other Machinery
2009	32.11	63.56	74.68	51.19	14.08	111.88
2010	40.93	78.76	68.78	43.35	10.26	58.70
2011	45.54	107.57	89.84	59.51	18.09	102.82
2012	43.49	92.02	85.22	56.54	24.52	89.87
2013	43.25	69.03	74.30	34.55	20.71	119.37
2014	43.92	43.68	50.97	30.96	18.45	129.00
2015	45.67	18.70	58.88	37.33	14.79	99.80
2016	35.03	13.13	41.29	31.65	13.07	80.00
2017	33.99	11.54	21.64	31.87	13.07	70.80
2018	29.26	32.04	35.09	37.08	16.47	83.55
2019	29.09	40.33	53.45	29.22	16.63	70.12
2020	27.60	108.63	40.54	26.40	17.70	80.64
2021	32.95	79.55	52.83	29.71	20.81	117.31
2022	32.39	61.56	50.60	35.70	25.50	108.51

2023*	29.66	20.85	57.21	36.17	23.91	93.55
-------	-------	-------	-------	-------	-------	-------

*Provisional Data

The commodity wise AAGR, CAGR and growth analysis of Engineering Goods exports during the last 15 years period is provided in the table below.

Table 18: Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Electric Fans	0.18%	-0.53%	Has a modest average annual growth rate (AAGR), while the negative CAGR suggests a decline in exports with compounding effects. There might be challenges or changes impacting the electric fans' export sector.
Transport Equipment	10.19%	-7.16%	The substantial positive AAGR indicates strong average annual growth, but the negative CAGR implies a decline in exports with compounding effects. The export progress is not stable and sustained, have been heavily influenced by certain export surge and fluctuation.
Electrical Machinery	2.92%	-1.76%	Shows modest average growth rate and negative CAGR, quite similar to electric fans.
Specialized Machinery	-0.48%	-2.29%	Both the negative AAGR and CAGR suggest a decline in exports for specialized machinery, with compounding effects. This sector might be facing challenges or changes affecting its export performance.
Auto Parts	6.72%	3.59%	Strong growth in both AAGR and CAGR, making it one of the fastest-growing categories. May be recognized as emerging category for exports.
Other Machinery	3.08%	-1.19%	While the AAGR is positive, the negative CAGR suggests a decline in exports for other machinery with compounding effects.

Auto Parts demonstrate a resilient and positive trend, while other commodities show variations and challenges. The decline in exports, particularly in the electrical machinery sector, can be attributed to a surge in raw material prices. Notably, the cost of production escalated due to a substantial increase in copper prices. This surge in raw material prices, mostly imported, led to a decrease in export orders making the local engineering goods industry less competitive. Furthermore, the industry faced challenges related to the shortage of raw materials, primarily stemming from delays in payments on import bills. These factors collectively impacting the export dynamics of the engineering goods sector of Pakistan.

Sports Goods

The sports goods sector is another important SME sector of Pakistan with significant linkages with other sectors of the economy. In the Financial Year 2023, the export value of sports goods amounted to USD 460.63 million, showing a 9% decline compared to the previous year exports of USD 506 million. Overall, sector has performed moderately well during the last 15 years period, as the exports increased from USD \$ 384.82 million in 2009 to USD 460.64 million in 2023, experiencing a growth of around 20% in comparison to 2009. However, sectors overall export performance is not up to the mark, as the exports values from 2009 to 2023 shows a mix of growth and periods of decline.

The meager AAGR of 1.6% and CAGR of 1.2% during the stated period demonstrates a modest growth trend of

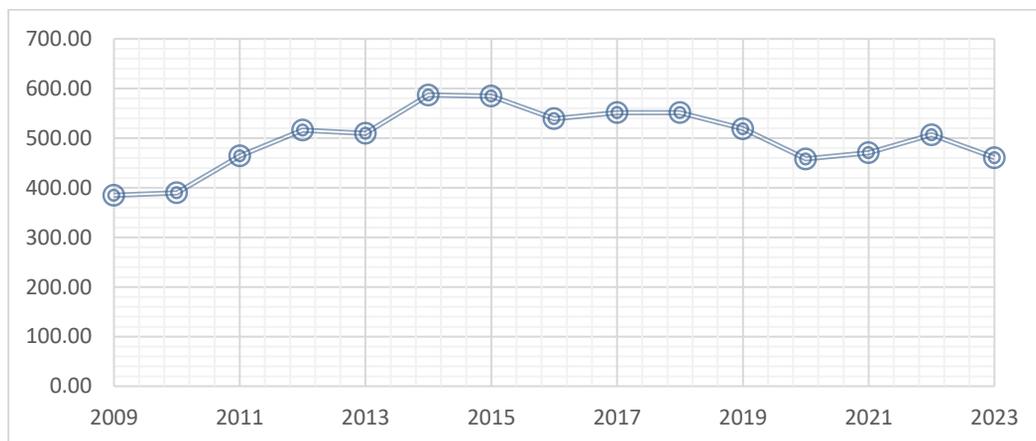
sports goods exports. The last 15 years exports trend of sports goods is exhibited below.

Table 19: Pakistan's Sports Goods Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	385	390	464	516	510	587	585	539	551	551	519	458	471	507	461

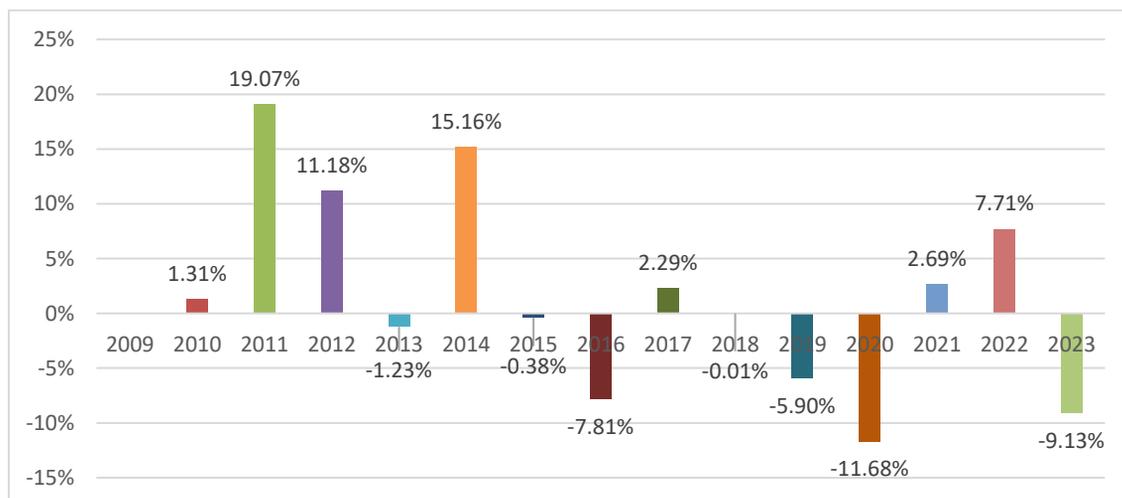
*Provisional Data

Figure 19: Exports Trend Line for Sports Goods from 2009-23 (Export Value in USD Million)



The analysis of yearly exports values for sports goods from 2009 to 2023 indicates considerable fluctuations in exports over the 15-year period. There is continued period of growth from 2009 to 2015, where export values show significant and sustained increases. In 2014, the export values reached at the highest peak with USD 587 million, followed by period of slightly downward but sustained trend till 2018. In the year 2019, the export value slipped to below USD 500 million. In recent years, 2022 showed increase in exports, while the year 2023 posted decrease in export values.

Figure 20: Percentage Change in Export Value of Sports Goods Year-on-Year Basis



The YoY percentage changes in export values indicate 2011 with the highest rise of 19% followed by 15% and 11% in the year 2014 and 2012 respectively. Contrary to that, year 2020 reported the highest decline of -12% and -9% in 2023.

Football holds the major share in sports goods. The share of football in the sports goods was 51% in FY 2023. The share of different product items in exports of engineering goods is provided in the pie charts below.

Figure 21: Product Wise Aggregate Average % Share in Sports Goods 2009-23

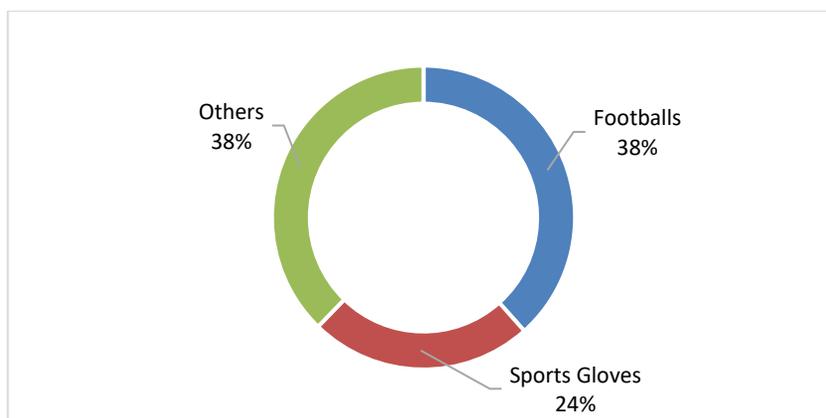
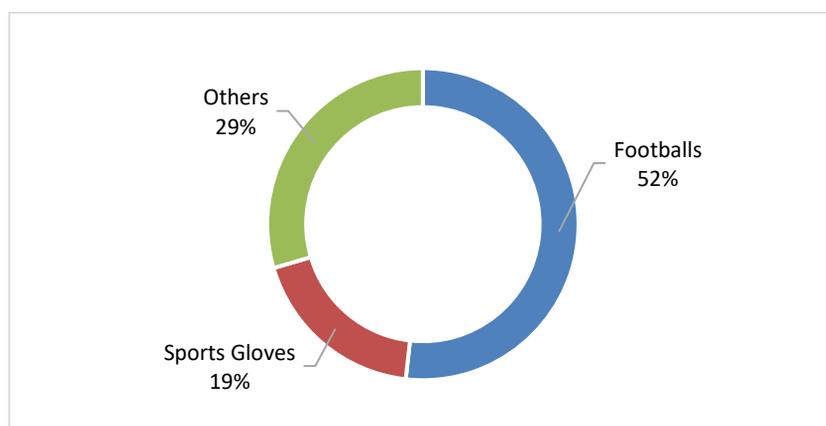


Figure 22: Product Wise % Share in Sports Goods Export in 2023



The comparative analysis of product wise aggregate average %age share in last 15 years with the shares in FY 2023, reflects that Pakistan's sports goods exports is mainly dominated by the Footballs, ranging from 40% ~ 52% over the years.

Table 20: Product Wise Export Values of Sport Goods from 2009-23 (USD Million)

Year	Footballs	Sports Gloves	Others
2009	164.07	82.11	138.65
2010	172.64	74.35	142.87
2011	169.62	120.94	173.65
2012	171.16	151.07	193.85
2013	170.22	157.38	182.15
2014	195.62	177.41	214.01
2015	209.41	149.39	226.00

2016	221.57	120.94	196.60
2017	203.10	133.40	214.98
2018	208.79	118.85	223.80
2019	209.32	119.38	190.22
2020	183.01	103.27	172.02
2021	157.90	95.93	216.82
2022	203.31	96.66	206.96
2023*	238.42	86.14	136.07

*Provisional Data

The commodity wise AAGR, CAGR and growth analysis of Sports goods exports during the last 15 years period is provided in the table below.

Table 21: : Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Footballs	3.3%	2.5%	Displays persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports.
Sports Gloves	2.1%	0.3%	Has a good AAGR but a modest CAGR indicating slightly stable year-to-year performance in export values. It shows that, sports gloves category has not showed substantial growth in exports.
Other Sports Goods	1.2%	-0.1%	Shows modest AAGR and negative CAGR, suggesting a decline in exports over the years.

Chemical & Pharmaceutical Group

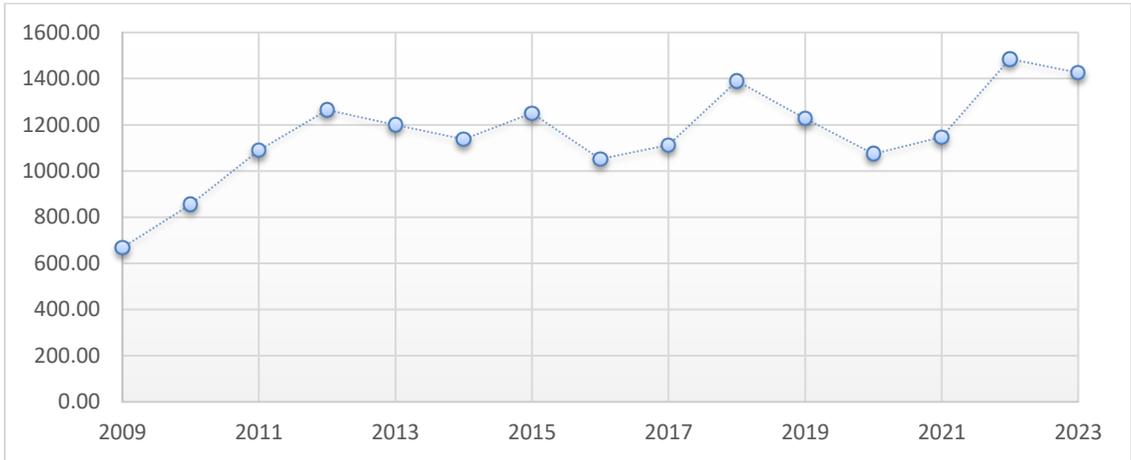
Pakistan exported USD 1,428.85 millions worth of chemical and pharmaceutical products to the world during FY 2023. The sector witnessed decline of 4% during reported period as compared to the exports of the corresponding period of last year. However, the sector has achieved phenomenal growth in export values during the last 15 years period, the export value in 2009 was USD 667.86 million, which has been more than doubled in FY 2022. The positive AAGR of 6.71% and CAGR of 5.18% during the stated period 2009-23 shows the strong performance of the sector. The last 15 years exports trend of chemicals & pharmaceuticals is exhibited below.

Table 22: Pakistan's Chemical & Pharmaceutical Group Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Bn.	0.67	0.86	1.09	1.26	1.20	1.14	1.25	1.05	1.11	1.39	1.23	1.07	1.15	1.49	1.42

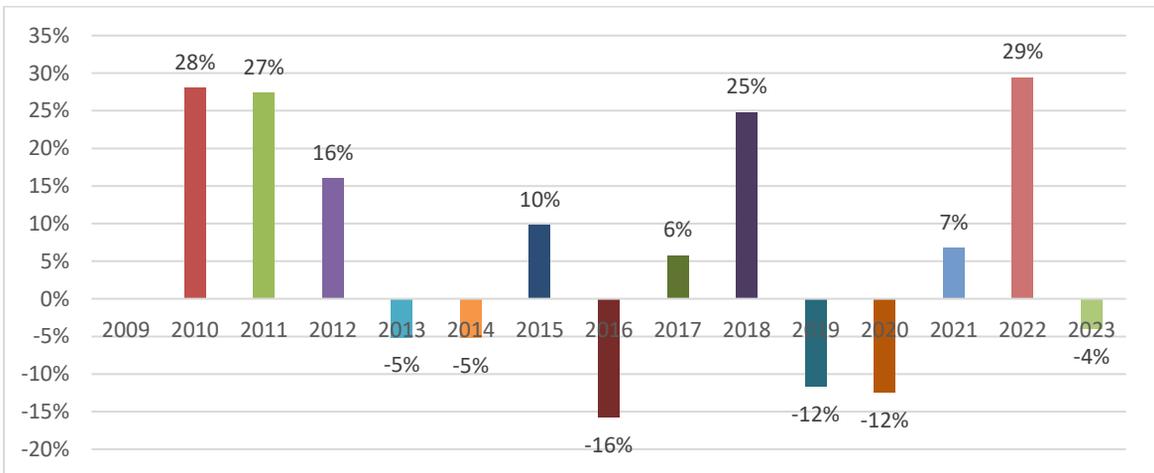
*Provisional Data

Figure 23: Exports Trend Line for Chemical & Pharmaceutical Group from 2009-23 (Export Value in USD Mn)



The analysis of yearly export values for chemical and pharmaceutical group from 2009 to 2023 demonstrates fluctuating progress over the 15-year period. There is continued period of impressive growth from 2009 to 2012, where export values show significant and sustained increase. Afterwards, export values slightly decrease in 2013 and 2014. The ups and down in the export value continued till 2023. The export values reached at the highest peak with USD 1,489 million in 2022. In between 2014 and 2022 remained rather low, followed by an increase in export value of USD 1,390 million in 2018. Despite these fluctuations, there is an overall increasing trend in chemical and pharmaceutical exports during the stated period.

Figure 24: Percentage Change in Export Value of Chemical & Pharmaceutical Group Year-on-Year Basis



The YoY percentage changes in export values indicate 2022 with the highest rise of 29% followed by 28% and 27% in the year 2010 and 2011 respectively. Contrary to that, year 2016 reported the highest decline of -16% and -12% in 2019.

Share of different products within the Chemical and Pharmaceutical Group is provided in the pie charts below.

Figure 25: Product Wise Aggregate Average % Share in Chemical & Pharmaceutical Group 2009-23

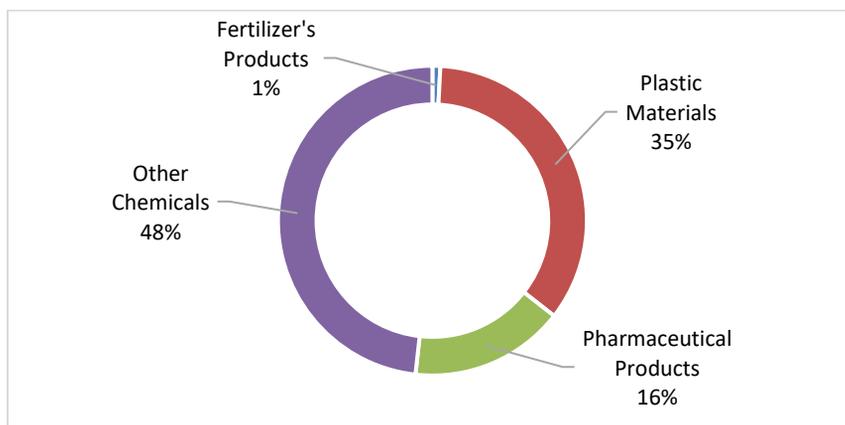
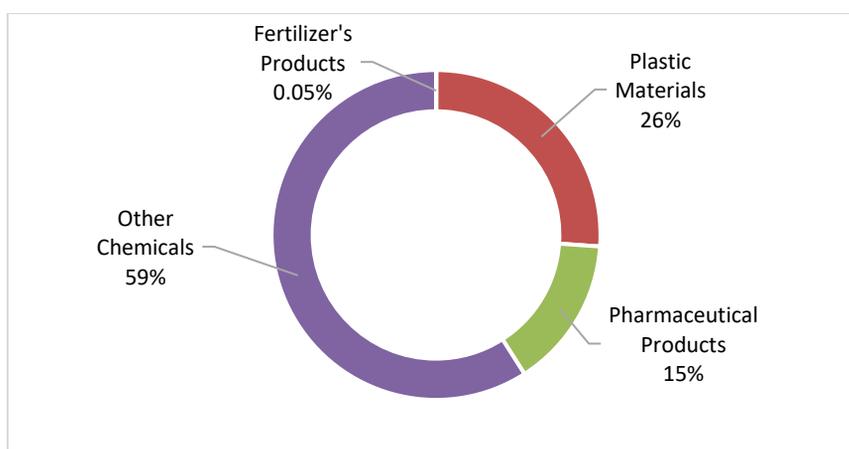


Figure 26: Product Wise % Share in Chemical & Pharmaceutical Group Export in 2023



The product wise values of export of different items in the chemical and pharmaceutical group from 2009 to 2023 is provided in the following table.

Table 23: Product Wise Export Values of Chemical & Pharmaceutical Group from 2009-23 (USD Million)

Year	Fertilizer's Products	Plastic Materials	Pharmaceutical Products	Other Chemicals
2009	0.66	299.23	94.05	273.92
2010	0.18	358.42	103.56	393.00
2011	0.14	494.29	112.50	482.78
2012	0.13	540.63	135.23	588.56
2013	0.48	434.00	160.45	604.68
2014	0.08	404.69	160.28	572.58
2015	0.15	446.52	216.63	586.66
2016	0.10	386.70	201.92	463.60
2017	23.53	363.78	225.25	500.74
2018	115.76	415.16	257.99	600.65
2019	0.11	414.11	202.85	610.00
2020	0.31	345.59	215.44	512.83

2021	0.00	320.44	273.80	553.15
2022	0.65	440.49	244.32	799.76
2023	0.68	371.41	211.49	841.27

**Provisional Data*

The commodity wise AAGR, CAGR and growth analysis of Engineering Goods exports during the last 15 years period is provided in the table below.

Table 24: : Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Fertilizer's Products	5395.0%	0.2%	CAGR of 0.2% represents a very modest growth in the product category, whereas extremely high AAGR is due to strong fluctuation in export value in 2017 and 2018 that may be incidental.
Plastic Materials	3.1%	1.5%	Has a good AAGR but a modest CAGR indicating slightly stable year-to-year performance in export values. It shows that, plastic materials category has not showed substantial growth in exports.
Pharmaceutical Products	7.1%	5.6%	Displays good and persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports.
Other Chemicals	9.9%	7.8%	Shows strong and persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports.

Leather & Leather Products

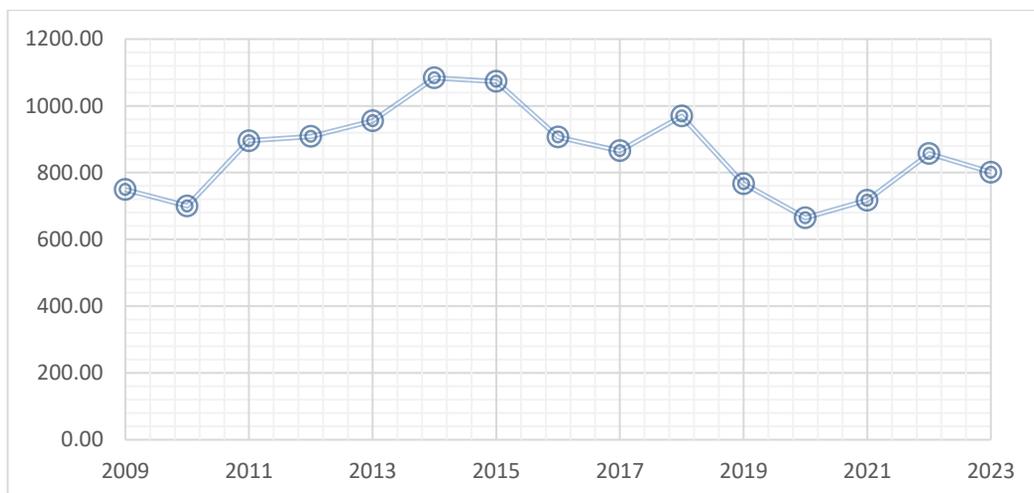
Leather & leather products are some of the most widely traded products globally. Pakistan, because of its large livestock resources, has remarkable growth potential in the leather sector. The leather industry of Pakistan is the second biggest export-oriented industry in the manufacturing sector and is third in its contribution towards the overall exports of Pakistan. During last 15 years (i.e., from FY 2009-23), this sector continued to be a good export earner with an AAGR of 1.4% and CAGR of 0.4%. During the FY 2023, leather & leather products have generated export earnings of USD 801.14 million. The last 15 years exports trend of food group is exhibited below.

Table 25: Pakistan's Leather & Leather Products Exports 2009-23 (USD Billion)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Bn.	0.75	0.70	0.90	0.91	0.96	1.08	1.07	0.91	0.87	0.97	0.77	0.66	0.72	0.86	0.80

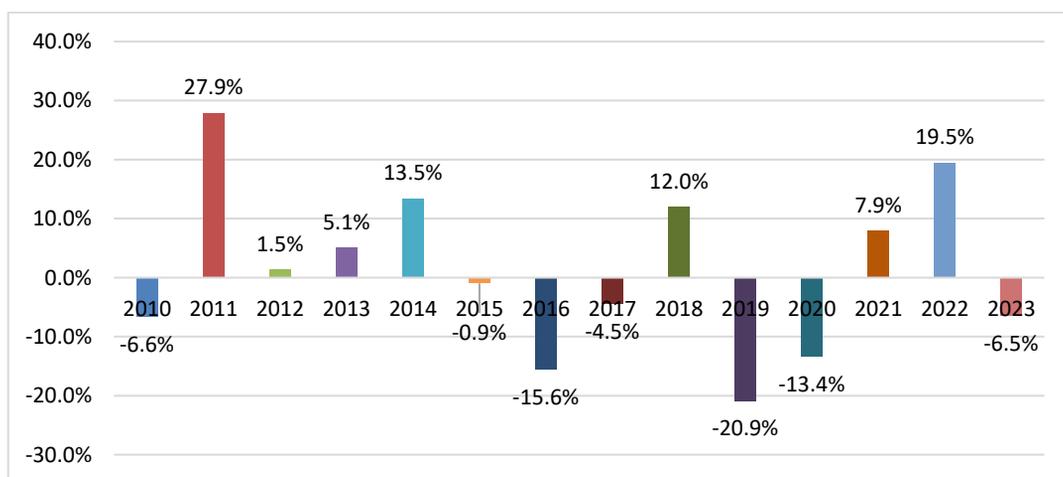
**Provisional Data*

Figure 27: Exports Trend Line for Leather & Leather Products from 2009-23 (Export Value in USD Mn)



The analysis of yearly export values for leather and leather products from 2009 to 2023 indicates significant fluctuations in exports over the 15-year period. There is continued period of growth from 2009 to 2015, where export values show significant and sustained increases. In 2014 and 2015, the export values crossed the USD 1 billion mark and reached at the highest peak with USD 1,083 million, followed by a period of downward trend in 2015 ~ 2017. The year 2018 witnessed a good jump in exports but remained slightly below the USD 1 billion. After 2018, the export values slipped to USD 665 million. In recent years, 2022 showed increase in exports, while the year 2023 posted slight decline. However, on an average Pakistan’s export values of leather & leather products hover within the range of USD 775 ~ 900 million during the stated period.

Figure 28: Percentage Change in Export Value of Leather & Leather Products Year-on-Year Basis



The YoY percentage changes in export values indicate 2011 with the highest rise of 27.9% followed by 19.5% and 13.5% in the year 2022 and 2014 respectively. Contrary to that, year 2019 reported the highest decline of -20.9% and -15.6% in 2016.

Tanned Leather and Leather Garments holds the major share in exports of leather and leather products. However, share of tanned leather is slightly on the decline. The share of leather garments was 37% and tanned leather was 22% in FY 2023 in comparison to the overall average share of 44% for tanned leather and 34% for

leather garments in the last 15 years period. The share of different product items in exports of leather and leather goods is provided in the pie charts below.

Figure 29: Product Wise Aggregate Average % Share in Leather & Leather Products 2009-23

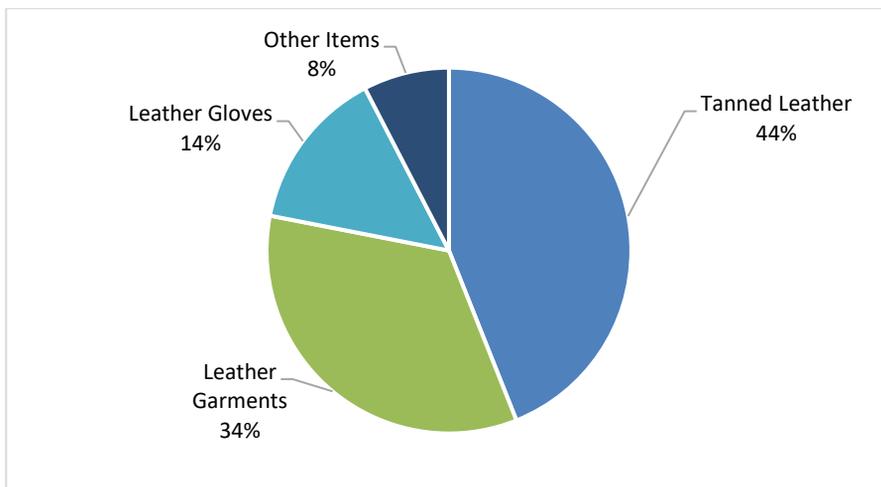
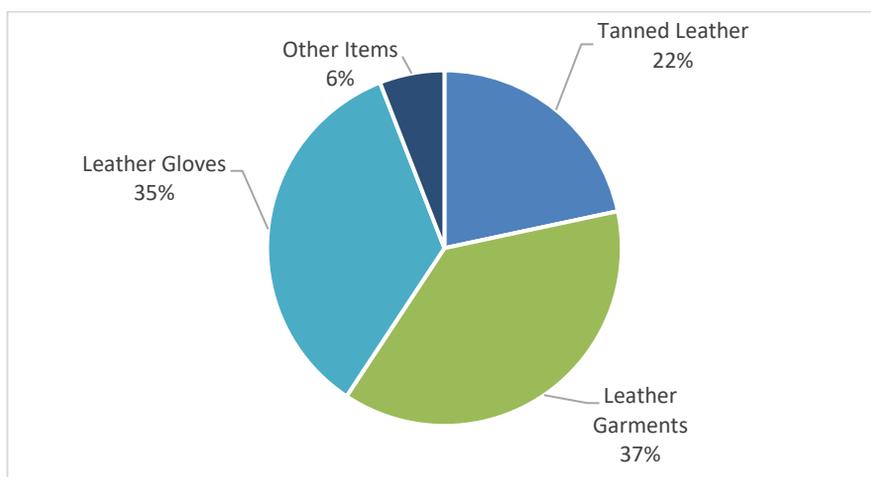


Figure 30: Product Wise % Share in Leather & Leather Products 2023



The comparative analysis of product wise aggregate average %age share in last 15 years with the shares in FY 2023, reveals that Pakistan’s leather & leather products exports progressed from tanned leather (i.e., 22% share in exports in 2023 in comparison to 15 years aggregate share of 44%) to value added leather products (i.e., 72% share in exports in 2023 in comparison to 15 years aggregate share of 48%). Leather gloves is the most promising product with 35% share in exports in FY 2023 compared to the aggregate average %age share of only 14% during the 15 years period.

The product wise values of export of different items in the leather & leather group from 2009 to 2023 is provided in the following table.

Table 26: Product Wise Export Values of Leather & Leather Goods from 2009-23 (USD Million)

Year	Tanned Leather	Leather Garments	Leather Gloves	Other Items
2009	453.61	200.11	39.11	56.42

2010	448.89	177.33	35.61	38.12
2011	513.63	248.11	56.61	77.05
2012	482.57	259.28	74.10	92.46
2013	522.89	268.82	68.78	94.52
2014	590.17	351.82	75.45	66.26
2015	526.83	364.15	90.93	91.52
2016	418.53	323.91	103.86	60.19
2017	378.84	311.42	108.08	67.25
2018	354.56	365.47	138.40	111.05
2019	263.87	292.45	142.50	68.24
2020	185.04	289.76	153.91	35.90
2021	157.26	315.36	207.57	37.06
2022	207.12	333.64	275.74	40.57
2023*	173.57	301.61	278.49	47.46

*Provisional Data

The commodity wise AAGR, CAGR and growth analysis of Leather and Leather Goods exports during the last 15 years period is provided in the table below.

Table 27: Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Tanned Leather	-5.3%	-6.2%	Both the high negative AAGR and CAGR suggest a decline in exports for tanned leather category with compounding effects. This product category might be facing challenges or changes affecting its export performance.
Leather Garments	4.1%	2.8%	The substantial positive AAGR and CAGR indicates consistent and sustained progress in export value of leather garments from Pakistan. It indicates high growth progression in exports and potential for growth.
Leather Gloves	16.4%	14.0%	Displays exceptionally good and persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports. It indicates the fastest and continued growing commodity in the leather goods exports.
Other Items	6.2%	-1.1%	The substantial positive AAGR indicates strong average annual growth, but the negative CAGR implies an overall decline in exports with compounding effects.

Footwear

Leather Footwear is one of the emerging export commodities of Pakistan. Over the last decade, export figures have shown significant potential for growth. The export value of Footwear from Pakistan stood at USD 167 million showing a growth of 7.9% during FY 2023 in comparison to the same period last year. Overall, footwear sector has posted significant growth in exports during the last 15 years period, as the exports boosted from USD 88.6 million in 2009 to USD 167 million in 2023, experiencing an enormous growth potential. Although, the share of footwear sector in overall exports from Pakistan is very nominal, however the export potential of the sector cannot be overlooked, which is clearly indicative from positive AAGR of 5.3% and CAGR of 4.3% during the last 15

years' i.e., from 2009 ~ 2023.

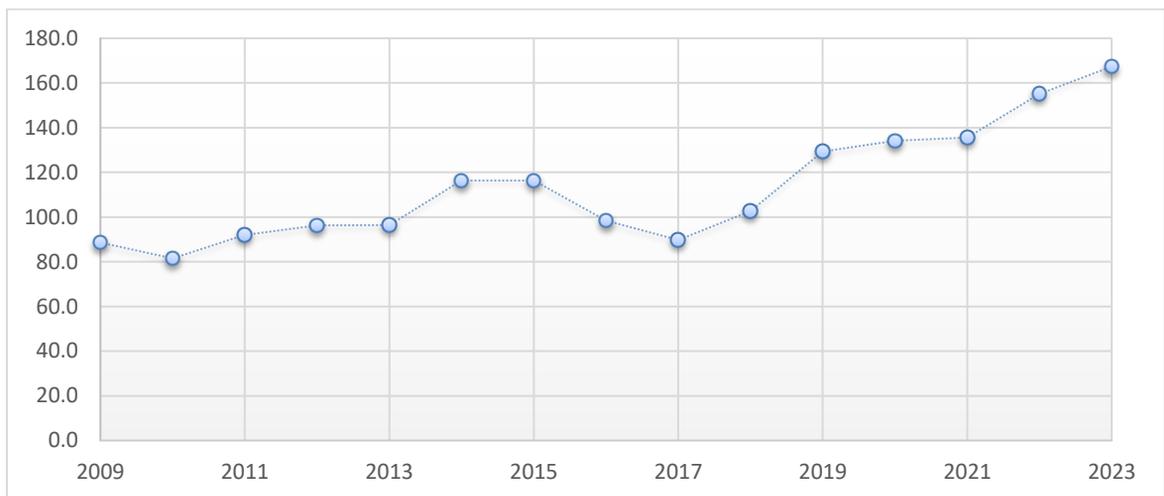
The growth rate of export value of footwear is higher than the overall export growth rate of Pakistan, as well as higher than the textile group. The last 15 years exports trend of petroleum group is presented below.

Table 28: Pakistan's Footwear Products Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	88.2	81.5	92	96	96.4	116	116	98	89	102	129	134	135	155	167

*Provisional Data

Figure 31: Exports Trend Line for Footwear from 2009-23 (Export Value in USD Mn)



Pakistan's footwear export value seems to have experienced slight fluctuations over the last 15 years. There is an overall increasing trend, especially in recent years from year 2018 and onwards. From year-on-year context, starting from 2009 the sector has experienced stable growth, with slightly downward trend during 2016 to 2018. Afterwards, footwear exports have shown continued stability and upwards trend till FY 2023. Overall, footwear presents positive signs for progression and export potentials for Pakistan's economy.

Figure 32: Percentage Change in Export Value of Footwear Products Year-on-Year Basis



The YoY percentage changes in export values indicate 2019 with the highest rise of 25.9% followed by 20.8%, 14% and 14% in the year 2014, 2018 and 2022 respectively. Contrary to that, year 2016 reported the highest decline of -15.4% and -8.7% in 2016.

Leather Footwear predominantly holds the major share in exports of footwear. The share of leather footwear is more than 80% within the footwear category. The share of different product items in exports of leather and leather goods is provided in the pie charts below.

Figure 33: Product Wise Aggregate Average % Share in Footwear 2009-23

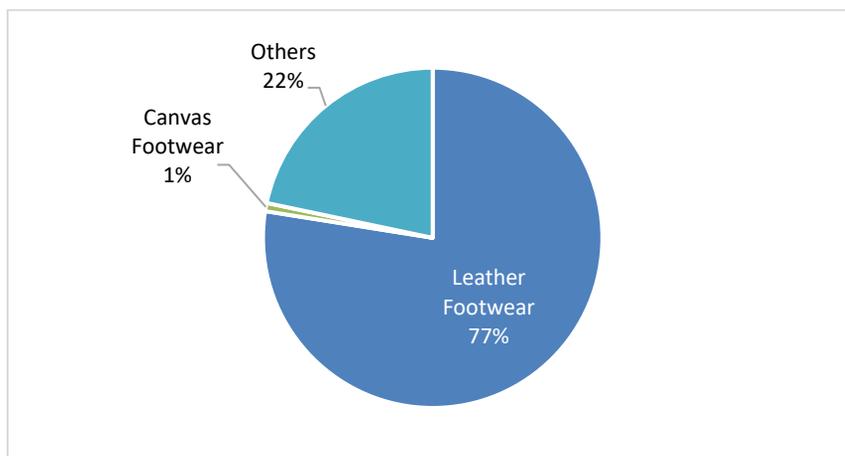
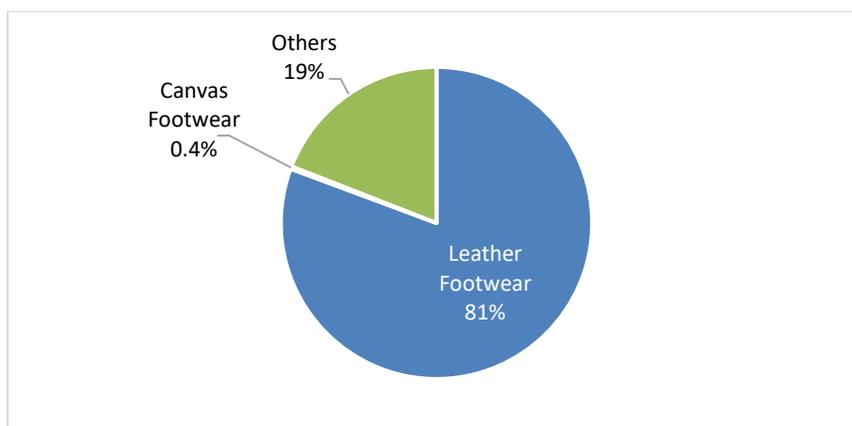


Figure 34: Product Wise Aggregate Average % Share in Footwear 2023



The product wise values of export of different items in the footwear product category from 2009 to 2023 is provided in the following table.

Table 29: Product Wise Export Values of Footwear from 2009-23 (USD Million)

Year	Leather Footwear	Canvas Footwear	Others
2009	64.9	4.9	18.8
2010	58.4	3.6	19.5
2011	68.6	0.8	22.7
2012	75.7	0.7	20.0
2013	66.2	0.3	29.9

2014	84.0	0.1	32.3
2015	89.1	0.0	27.2
2016	67.4	0.2	30.8
2017	75.3	0.2	14.3
2018	87.5	0.1	15.1
2019	101.0	0.0	28.2
2020	106.8	0.4	26.9
2021	110.9	0.4	24.2
2022	126.8	1.2	27.1
2023	135.0	0.4	31.9

**Provisional Data*

The commodity wise AAGR, CAGR and growth analysis of Leather and Leather Goods exports during the last 15 years period is provided in the table below.

Table 30: Product Wise AAGR & CAGR from 2009-23

Product Description	AAGR	CAGR	Analysis
Leather Footwear	6.3%	5.0%	The substantial positive AAGR and CAGR indicates consistent and sustained progress in export value of leather footwear from Pakistan. It indicates high growth progression in exports.
Canvas Footwear	80.3%	-14.9%	The substantially high positive AAGR indicates strong average annual growth, but higher negative CAGR implies a decline in exports with compounding effects. The export progress is not stable and sustained, having been heavily influenced by certain export surge and fluctuation.
Others	8.4%	3.6%	Displays good and persistent growth trends in both AAGR and CAGR, indicating high growth prospects in exports.

Carpet, Rugs and Mats

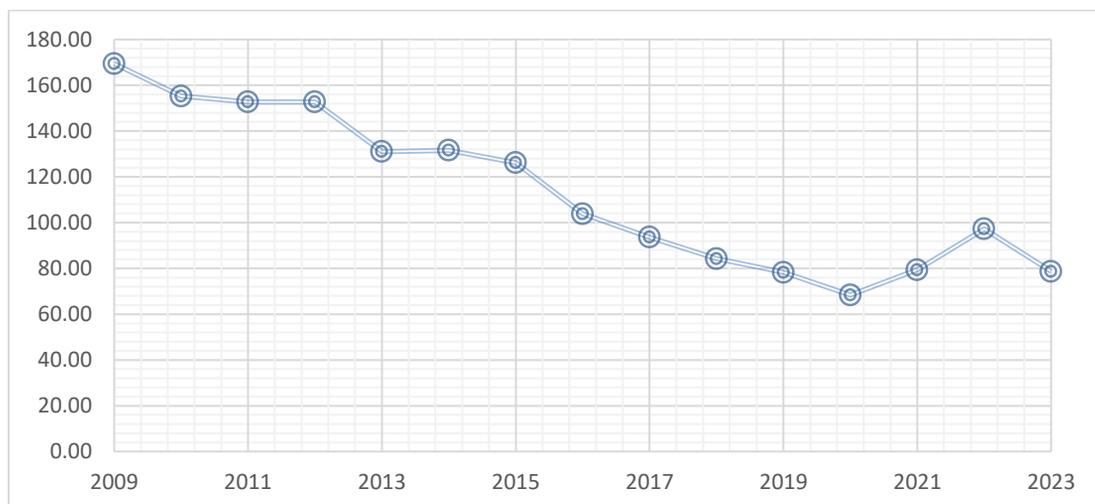
The exports of Carpet, Rugs and Mats recorded USD 78.71 million with a decline of 19% in FY 2023. Overall, carpet, rugs and mats category have continual decreasing trend in export values during the last 15 years period, as the exports decreased from USD 169.43 million in 2009 to USD 78.71 million in 2023, experiencing a massive negative rate of -115% in comparison to 2009. Similarly, the negative AAGR of -4.7% and CAGR of -5% exhibits the continued decline in export values of carpet, rugs and mats. The last 15 years exports trend of carpet, rugs and mats is exhibited below.

Table 31: Pakistan's Exports of Carpet, Rugs and Mats 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	169	155	152	153	131	132	126	104	94	84	78	6b	79	97	78

**Provisional Data*

Figure 35: Exports Trend Line for Carpet, Rugs and Mats from 2009-23 (Export Value in USD Mn)



This product category has posted positive growth rate only in 2021 and 2022, whereas in rest of the remaining years from 2009-23, the export performance has substantially declined. The export values are continuously below USD 100 million mark after 2016 and only slightly recovered in 2022 with USD 97 million but again fell flat to USD 78 million in the FY 2023.

Surgical Goods and Medical Instruments

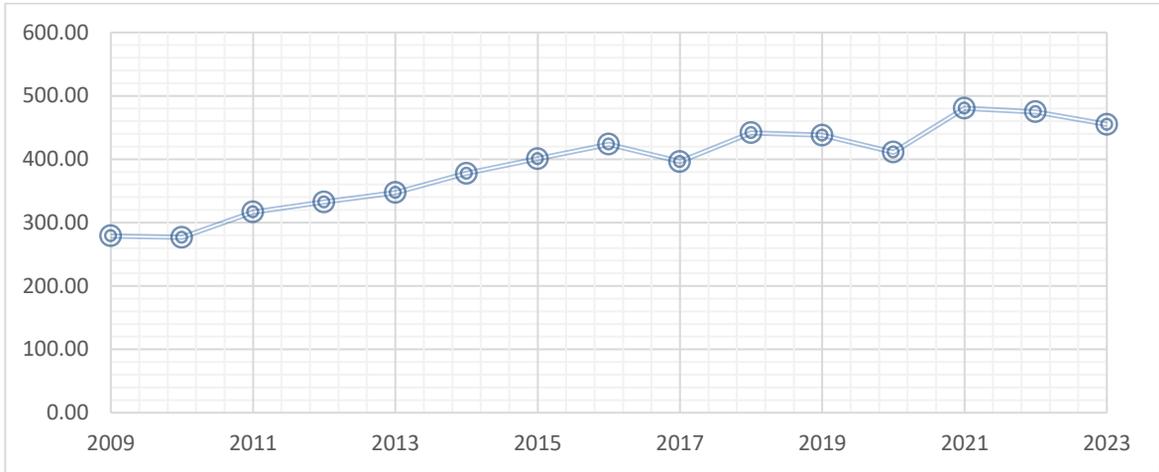
Similar to footwear and pharmaceutical sectors, the Surgical Goods and Medical Instruments is recognized as one of the growing and emerging export-oriented sectors of Pakistan’s economy. The export value of surgical goods and medical instruments reached USD 455 million in FY 2023 with a decline of 4% in FY 2023 compared to the corresponding period in the previous year. However, during the past 15 years i.e., from 2009 ~ 2023, the surgical goods and medical instruments has exhibited remarkable progress in exports, witnessing a substantial increase from USD 279 million in 2009 to USD 455 million in 2023, highlighting significant growth of 39% compared to 2009. Correspondingly, the positive AAGR of 3.8% and CAGR of 3.3% exhibits the continued and sustained progress of this product category during the 15-year period from 2009 to 2023. The upward trajectory in the export value of surgical goods and medical instruments signifies a positive trend, showcasing the industry’s resilience and potential for sustained growth. The last 15 years exports trend of surgical goods and medical instruments is exhibited below.

Table 32: Pakistan’s Exports of Surgical Goods and Medical Instruments 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	279	277	317	332	347	378	401	424	396	442	438	411	480	475	455

*Provisional Data

Figure 36: Exports Trend Line for Surgical Goods & Medical Instruments from 2009-23 (Value in USD Mn)



The export values of surgical goods and medical instruments during the last 15-year period have experienced an up-ward fluctuated trend cycle. There is an overall increasing propensity over the years. From year-on-year context, starting from 2009 the sector has experienced stable growth, with slightly downward trend during 2017 to 2020. However, the export values have moved upwards from USD 279 million in 2009 to a maximum value of USD 480 in 2021. Overall, surgical goods and medical instrument product category demonstrated progression and export growth potentials for economy of Pakistan.

Cutlery

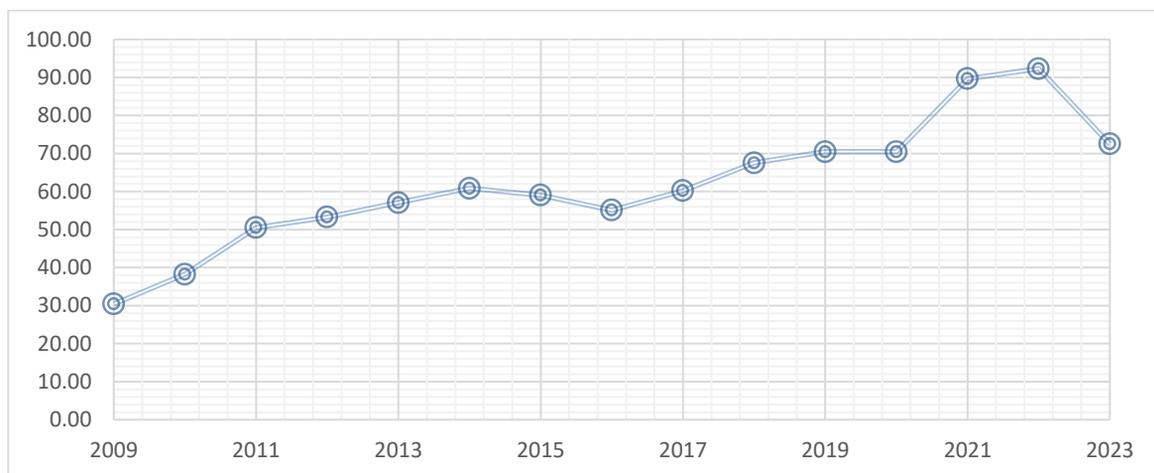
The Cutlery industry makes a modest contribution of 0.11% to the country's GDP, with a share of 0.47% in total exports and 3.4% in other manufacturing exports. The exports of Cutlery decreased by 21% and exported worth USD 72.52 million in the FY 2023 as compared to the exports of valuing USD 92.33 million in the same period of the previous year. On the whole, cutlery sector has posted significant growth in exports during the last 15 years period, as the exports boosted from USD 30 million in 2009 to USD 72.52 million in 2023, experiencing good growth potentials. The significant higher positive AAGR of 7.3% and CAGR of 6% from 2009-23 clearly demonstrates the good performance of the sector over the years. The last 15 years exports trend of cutlery products is exhibited below.

Table 33: Pakistan's Cutlery Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	279	277	317	332	347	378	401	424	396	442	438	411	480	475	455

*Provisional Data

Figure 37: Exports Trend Line for Cutlery from 2009-23 (Value in USD Mn)



The export values trend line during the last 15 years clearly depicts upward progression in cutlery exports from Pakistan. From year-on-year context, starting from 2009 the sector has experienced stable and sustained growth, with moderate downward trend during 2016 and 2020. However, for a longer period of time, export values have moved upwards with growth rate of 58% for export value in FY 2023 in comparison to FY 2009.

Onyx Manufactured

The term "Onyx Manufactured" refers to products or items that are made or crafted using onyx, a type of mineral. Onyx is a variety of chalcedony, which is a type of microcrystalline quartz. It is known for its distinctive banding of different colors, often black and white, and it is commonly used in the creation of various decorative items, sculptures, tiles and jewelry. The term specifies that onyx is a significant component in the creation of manufactured goods. There is not a specified or widely recognized 'Onyx Manufactured Industry in Pakistan. However, this product still holds some economic proposition largely in domestic market with very minimal export contributions.

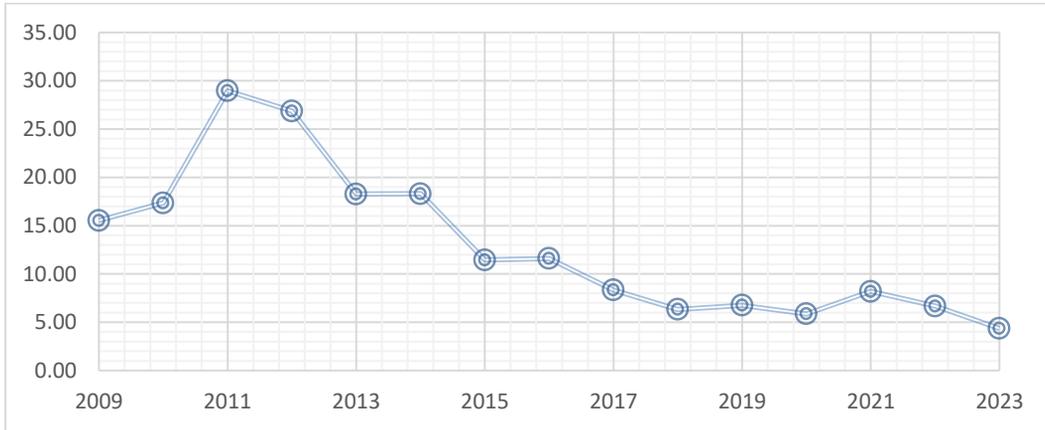
Pakistan exported USD 4.36 million worth of onyx manufactured products to the world during FY 2023. It witnessed a decline of 35% during the reported period as compared to the exports of the corresponding period of last year. The product category has a continual declining trend in export values during the last 15 years period 2009-23, as the exports decreased from USD 15.53 million in 2009 to USD 4.36 million in 2023, experiencing a massive negative rate of over 250% in comparison to 2009. Similarly, the negative AAGR of -4.9% and CAGR of -8% exhibits the continued decline in export values of onyx manufactured. The last 15 years exports trend of onyx manufactured is illustrated below.

Table 34: Pakistan's Onyx Manufactured Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	16	17	29	27	18	18	11	12	8	6	7	6	8	7	4

*Provisional Data

Figure 38: Exports Trend Line for Onyx Manufactured from 2009-23 (Value in USD Mn)



The onyx manufactured has showed positive growth rate only in 2011 and 2012, whereas in rest of the remaining years from 2009-23, the export performance has substantially declined. The export values are continually below USD 10 million mark after 2017.

Gems

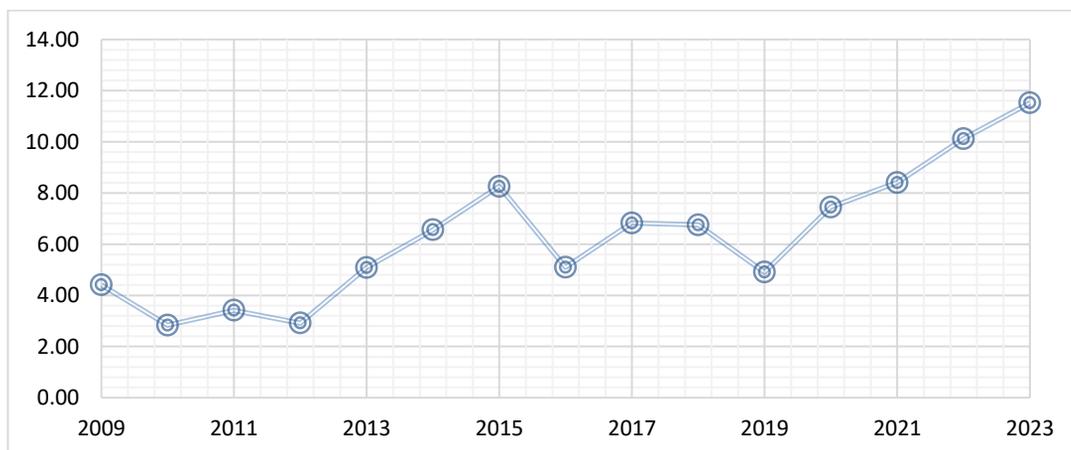
The Gems sector also makes a very modest contribution to exports from Pakistan. However, despite being a small commodity segment, gems export from Pakistan has increased over the years. The exports of gems increased by 14% and exported worth USD 11.52 million in the FY 2023 as compared to the exports valuing USD 10.12 million in the same period of the previous year. In general, gems sector has posted significant growth in exports during the last 15 years period, as the exports boosted from USD 4.41 million in 2009 to USD 11.52 million in 2023, experiencing substantial growth progression. The significantly higher positive AAGR of 11.8% and CAGR of 6.6% from 2009-23 clearly demonstrates the performance of the sector over the years. The last 15 years exports trend of gems is provided below.

Table 35: Pakistan’s Gems Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	4	3	3	3	5	7	8	5	7	7	5	7	8	10	12

*Provisional Data

Figure 39: Exports Trend Line for Gems from 2009-23 (Value in USD Mn)



The export values trend line during the last 15 years clearly depicts upward but slightly fluctuated progression in gems exports from Pakistan. From year-on-year context, starting from 2012 the sector has experienced stable and sustained growth till 2015, followed by a slightly downward trend till 2019 and afterwards a continued upward trend in value of exports as of 2023. On the whole, for the longer period of time, export values of gems sector have moved upwards with growth rate of 62% for export value in FY 2023 in comparison to FY 2009.

Jewellery

Jewellery sector is another small segment of Pakistan’s economy with minor export contribution. The sector is predominantly fulfilling the needs of domestic market, while export performance has been derailed and flatted since 2013. The analysis of exports value over the past years revealed that jewelry sector has significant export potential, which somehow has not been sustained and exploited by the industry over the years.

The exports of jewellery recorded USD 15.12 million with a rise of 14% in FY 2023, in comparison to the corresponding previous year exports. Overall, the sector has lost its export aura and reported massive decline in export values after the year 2013, when the exports touched the highest mark of USD 253 million. During the last 15 years period export value witnessed a massive downward turnaround from USD 253 million in 2013 to only USD 15 million in FY 2023. Unfortunately, the export values of jewellery have not even able to cross or touch the threshold of USD 20 million after the 2014. The last 15 years exports trend of jewellery is exhibited below.

Table 36: Pakistan’s Jewellery Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	22	106	161	213	253	61	11	7	8	8	6	7	14	13	15

*Provisional Data

Figure 40: Exports Trend Line for Jewellery from 2009-23 (Value in USD Mn)



The jewelry sector demonstrated significant progress from 2009 to 2013. However, subsequent to this period, there was a persistent decline with no signs of recovery or positive advancement. The export values consistently remained below the USD 16 million mark after 2014, indicating a prolonged period of diminished performance in the sector.

Furniture

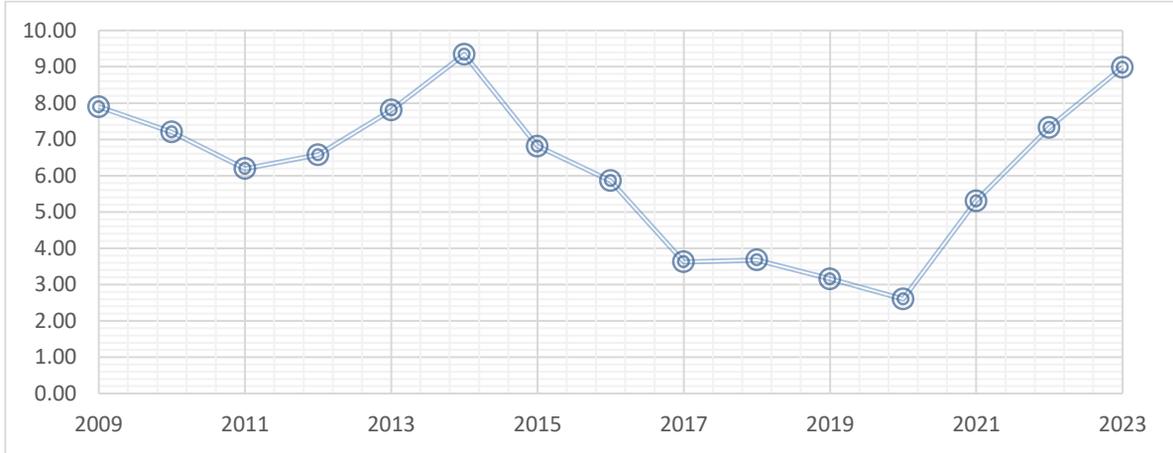
Another small sector of Pakistan’s economy with very nominal share in exports. Furniture sector export was recorded at USD 423 million with a 1% decline during the FY 2023. During the last 15-year period, from 2009 ~ 2023, the furniture sector has shown skewed and fluctuated progress. The export values of furniture during the said period hover upward and downward between the range of USD 5.50 million to USD 9 million, even the export values dropped to USD 2~4 million for 2 to 3 years. The moderate CAGR of 0.9% demonstrates the average progression in export value during the last 15 years, however, slightly higher AAGR of 5.5% depicts the skewed and fluctuated trend in export value. The last 15 years exports trend of furniture is provided below.

Table 37: Pakistan’s Furniture Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	8	7	6	7	8	9	7	6	4	4	3	3	5	7	9

*Provisional Data

Figure 41: Exports Trend Line for Furniture from 2009-23 (Value in USD Mn)



The furniture sector has showed skewed export progress over the years from 2009-23, the export value touched the highest mark of USD 9 million with downward trend till 2020, when export values declined to USD 3 million. Later on, an upward trend as of FY 2023 is visible, while exports are almost moving to the highest mark of USD 9 million.

Molasses

Molasses is a thick, dark, and viscous syrup that is a byproduct of the sugar refinement process. It is typically produced during the extraction of sugar from sugarcane or sugar beets. It is the remaining liquid after the sugar crystals have been removed. Molasses has a robust, sweet flavor and is commonly used as a sweetening agent in various food products, especially in baking, cooking and beverages. The exports of molasses from Pakistan stood USD 21.57 million in FY 2023, showing a decline of around -36% compared to the previous year exports of USD 33.54 million. However, there is no substantial progress in the overall exports of molasses during the last 15-year period from 2009 ~ 23. The export trend is highly skewed and fluctuated over the years with predominantly below par performance. The last 15 years exports performance of molasses is illustrated below.

Table 38: Pakistan’s Molasses Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	102	54	15	11	46	13	10	8	9	12	12	5	0.11	34	22

**Provisional Data*

Figure 42: Exports Trend Line for Molasses from 2009-23 (Value in USD Mn)



The export value of molasses from Pakistan in 2009 was USD 102 million, which is reached the lowest level of USD 0.11 million in 2021. The year 2013 and 2022 showed good growth with USD 46 million and USD 34 million export, whereas, in between the years the export performance is not up to the mark.

Handicrafts

Another small segment of economy, Pakistan exported USD 0.59 million worth of Handicraft products to the world during FY 2023. During the last 15-year period, from 2009 to 2023, the export performance is not worthwhile, as the export value of handicraft from Pakistan has not been able to even cross the USD 1 million mark over the years. The last 15 years exports performance of handicraft is provided below.

Table 39: Pakistan’s Handicraft Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	0.84	0.88	0.44	0.15	0.26	0.34	0.27	0.22	0.09	0.23	0.05	0.13	0.34	0.01	0.59

*Provisional Data

Figure 43: Exports Trend Line for Handicraft from 2009-23 (Value in USD Mn)



Cement

In FY 2023, the export of Cement experienced a decline of around 12% compared to the corresponding period

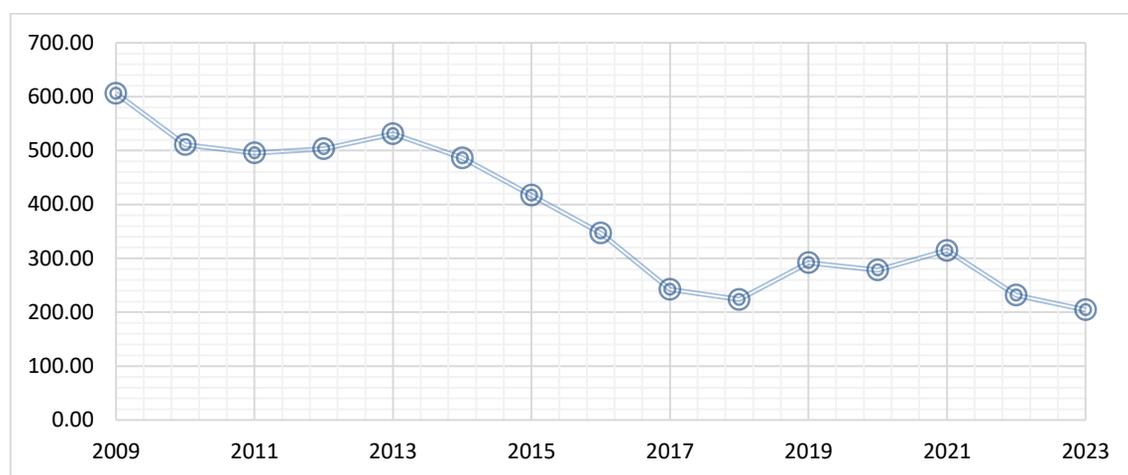
of the previous year. The exports during FY 2023 amounted to USD 204.43 million, showing a decrease from USD 231.81 million in the same period of the preceding year. Largely, cement sector has continual decreasing trend in export values during the last 15 years period, as the exports decreased from USD 606.40 million in 2009 to USD 204.43 million in 2023, experiencing a negative trend of around 200% in comparison to 2009. Correspondingly, the negative AAGR of -6.3% and CAGR of -7% demonstrates the persistent decline in export values of cement. The last 15 years exports trend of cement is exhibited below.

Table 40: Pakistan’s Cement Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	606	511	496	503	531	487	417	347	242	224	292	278	315	232	204

*Provisional Data

Figure 44: Exports Trend Line for Cement from 2009-23 (Value in USD Mn)



The export performance for the cement sector from 2009-23 period witnessed a substantial decline, as the export value started over USD 600 million in 2009 and touched the lowest levels of just over USD 200 million mark. The export values are continually below USD 300 million mark after 2016 and only slightly revived in 2021 with USD 315 million but again declined to USD 232 million in 2022 and USD 204 million in 2023.

Guar & Guar Products

Guar refers to a leguminous plant primarily grown in tropical deserts of Indo-Pak Sub Continent, scientifically known as *Cyamopsis tetragonoloba*. The seeds of the guar plant are rich in a gum-like substance called guar gum. Guar and its byproducts have various industrial applications and are commonly used in the food, textile, pharmaceutical, and oil and gas industries. Guar gum is extracted from guar seeds and is a versatile thickening and stabilizing agent. Overall, guar and its derivatives play a crucial role in various industries, and their applications extend across sectors due to the unique properties of guar gum. India produces 75% of guar, Pakistan 20% and only 5% is produced by the other countries (USA, S. Africa, Sudan and Australia).

The exports of Guar & Guar Products increased by 2.1% and exported worth of USD 46.27 million in the FY 2023 as compared to the exports valuing USD 44.86 million in the same period of the previous year. In general, guar & guar products has shown skewed and fluctuated growth in exports during the last 15 years period, as the

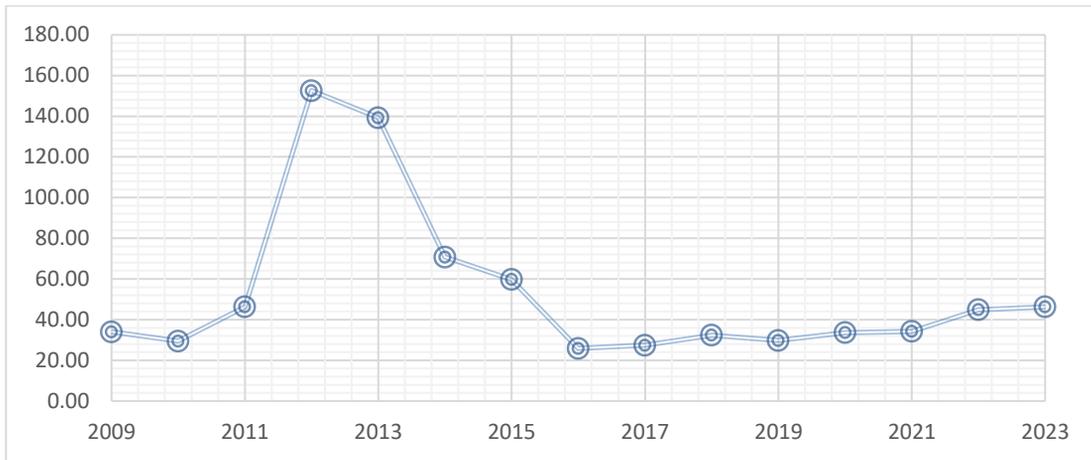
exports increased from USD 34.03 million in 2009 to USD 46.27 million in 2023, experiencing significant growth progression of 26%. The significantly higher positive AAGR of 14.9% and nominal CAGR of 2.1% from 2009-23 demonstrate the slightly good performance of the sector with compounded effects over the years. The last 15 years exports trend of guar & guar products is provided below.

Table 41: Pakistan’s Guar & Guar Product Exports 2009-23 (USD Million)

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Export Value USD Mn.	34	29	46	153	139	71	60	26	27	32	30	34	34	45	46

*Provisional Data

Figure 45: Exports Trend Line for Guar & Guar Products from 2009-23 (Value in USD Mn)



The export values trend line during the last 15 years clearly portrays upward but very skewed and fluctuated progress in guar & guar product exports from Pakistan. From year-on-year context, starting from 2012 the sector has attained maximum rise in export value of USD 152.56 million, followed by a downward trend till 2016 when exports touched the lowest value of USD 25 million in 2016. After the 2016, the product category has a sustained and stable rise in exports but export value has not been able to cross USD 50 million. The recent rise in export value of around US 46 million in 2022 and 2023 is just comparable to export value in 2011. On the whole, the product has achieved a very modest rise and progress in export value during the 15 years period.

Tech Renaissance

A Technical Note and Action Plan for Advancing Pakistan's IT Sector

Ali Ishtiaq*



Background

The global landscape is entering a new phase marked by the ascendancy of the digital economy and society. Information and communications technologies (ICTs) are progressively woven into every facet of the economic and social fabric, acting as key enablers. Under the umbrella term of "Information Technology (IT) Services," a spectrum of activities such as software development, software maintenance, system integration, web design, web development, web hosting, and network design find inclusion. Additionally, within the realm of "IT enabled Services (ITeS)," endeavors such as inbound or outbound call centers, medical transcription, remote monitoring, graphics design, accounting services, HR services, telemedicine centers, data entry operations, locally produced television programs, and insurance claims processing are encompassed.

The Pakistan Software Export Board (PSEB) tallies a noteworthy count of over 19,000 ICT companies operating within Pakistan, a substantial fraction of which—approximately 6,000—engage in the export of ICT products and services to a diverse landscape spanning more than 120 countries.

Globally, the information technology market has demonstrated robust expansion, with its valuation growing from \$8,179.48 billion in 2022 to \$8,852.41 billion in 2023, manifesting a compounded annual growth rate (CAGR) of 8.2%³. This market exhibits segmentation across various dimensions, reflecting its dynamic and multifaceted nature.

* Mr. Ali Ishtiaq is working as Manager in Policy & Planning Division, SMEDA

³ Information Technology Global Market Report, The Business Research Company, January 2023

Pakistan IT Sector

The predominant composition of Pakistan's ICT sector is centered around software development and IT-enabled services (ITeS), encompassing domains such as data centers, technical service/call centers, and telecommunications services. Notably, the Information and Communication sector witnessed a noteworthy growth rate of 11.9%⁴ during the fiscal year 2022. This growth can be attributed to advancements in telecommunications, computer programming, consultancy, and associated activities.

Even in the face of the challenges posed by the COVID-19 pandemic, Pakistan's ICT sector managed to contribute a modest share of approximately one percent (01%) to the country's GDP, amounting to \$3.5 billion in the fiscal year 2021⁵.

Aligned with the strategic objectives outlined in Pakistan Vision 2025 and the Digital Policy of Pakistan 2018, the aspirations for the ICT industry are ambitious. The goal is to elevate the industry's size to a significant \$20 billion by the year 2025, signifying a resolute commitment to propel the sector's growth and impact.

Pixels vs. Producers – Understanding the Uniqueness of IT Sector

Below are the factors that bestow a distinctive comparative edge upon the IT sector in comparison to other industries:

1. Short Gestation Period

One of the key reasons why the IT sector should be prioritized in times of economic downturn is that its gestation period is much shorter than that of any other sector. The gestation period refers to the duration between the initial capital outlay and the realization of profits. When investing in any industry, especially during times of turbulence and uncertainty, it is essential to take this into account. A decreased gestation period results in expedited returns and reduced financial risk. A protracted gestation period is associated with postponed returns and an increased susceptibility to becoming obsolete or disrupted. The shortened gestation period observed in the IT industry can be attributed to a multitude of factors:

- First, the IT sector is driven by innovation and creativity, which can be achieved with relatively low capital and human resources. Unlike other sectors that require heavy infrastructure, machinery, land or raw materials, the IT sector can create value with software, data and algorithms. For example, a mobile app can be developed and launched within weeks or months with a small team of developers and designers, while a manufacturing plant can take years and millions of dollars to build and operate.
- Second, the IT sector has high scalability and adaptability, which can lead to exponential growth and profitability. Unlike other sectors that face physical or regulatory constraints, the IT sector can reach and serve millions or billions of customers across the world with minimal marginal costs. For example, a social media platform can grow its user base and revenue by adding new features and functionalities without increasing its fixed costs significantly, while a transportation company can face challenges such as traffic congestion, fuel prices and environmental regulations.
- Third, the IT sector has a strong resilience and relevance, which can ensure its survival and success in any situation. Unlike other sectors that depend on external factors such as demand, supply or competition, the IT sector can create its own demand and supply by solving problems and creating opportunities. For example, a cloud computing service can provide solutions for businesses that need to store and process large amounts of data securely and efficiently, while a biotechnology company can face uncertainties such as market acceptance, ethical issues, or regulatory approval.

2. Driver of Innovation and Productivity

IT sector is also a key driver of innovation and productivity in the economy. IT enables other sectors to improve their efficiency, quality, and performance by providing them with advanced tools, platforms, and solutions. IT also fosters creativity and entrepreneurship by creating new opportunities and markets for businesses and individuals.

⁴ Economic Brief 2022, KPMG Taseer Hadi & Co. Chartered Accountants, June 2022

⁵ International Trade Administration, Computer Software, November 2022

IT sector contributes to economic growth and development by enhancing human capital, social capital, and intellectual capital of the society.

3. Export Potential

IT&ITeS is one of the major contributors to service exports, primarily comprising 90% of SMEs in the country.⁶ Pakistan's ICT Industry has been a resounding success story for Pakistan, having achieved a stellar remittance inflow growth rate, and being the largest net exporter in the services sector. The IT/ITeS export recorded \$635 million with growth of 43% in July-Sep 2022-23 as compared to last year's same quarter, \$445 million in 2021-2022. As per TDAP, July-September 2022, statistics, IT/ITeS exports accounted for 40% (July-Sep2022) of the services sector export in the country.⁷ The IT/ITeS export of Pakistan witnessed significant growth from the last two years and touched \$2.615 billion for the FY2021-22 as per PBS.⁸ The IT and ITeS industry realized a phenomenal trade surplus of \$1.344 billion (88.25 percent of all ICT export remittances) from July 2022 to January 2023 in 2022–2023 to address the country's foreign exchange shortage. USA, UAE, UK, Singapore and Canada are top export destinations of Pakistan's IT/ITeS. During the first seven months of the current fiscal year 2022–23, IT and IT-enabled Services (ITeS) export remittances, which include computer services and call center services, increased by more than 2.4 percent and remained \$1.523 billion compared to \$1.488 billion during the same period of the previous fiscal year.⁹

4. Employment Generator

Pakistan, with about 60% of its 229 million population in the 15 to 64 age group, represents an enormous human and knowledge capital base. Pakistan has more than 300,000 English-speaking IT professionals with expertise in current and emerging IT products and technologies, 19 Software technology parks, more than 25,000 IT graduates and engineers are being produced each year coupled with a rising startup culture. The surge in the IT/ITeS sectoral export results in creating thousands of jobs and also contributing towards the country's forex reserves and economic growth.

Confronting Complexity: The Roadblocks Encountered by the IT Sector

To realize the immense potential of IT and to reap its comparative advantages, the IT sector faces several challenges and constraints that need to be addressed urgently. Some of these challenges include:

1. **Access to Finance:** According to PSEB, funding is a significant bottleneck in Pakistan. There is only US\$ 0.06 per capita of venture capital money in Pakistan per year, while Bangladesh has US\$ 0.07, Nigeria US\$ 0.18 and India US\$ 3.72. In 2017, only nine Pakistani startups received venture capital funding compared to 34 in Nigeria, 38 in the UAE and approximately 790 in India.¹⁰ Overall, Pakistan's tech startups raised just \$75.6 million in 2023 which is around 77.2% less than compared to the last two years compared to countries such as Indonesia raised over US\$ 274 million in 2018¹¹.

⁶ P@SHA Budget Recommendations for the IT/ITeS Industry 2022

⁷ Pakistan Trade Perspective, TDAP 2022

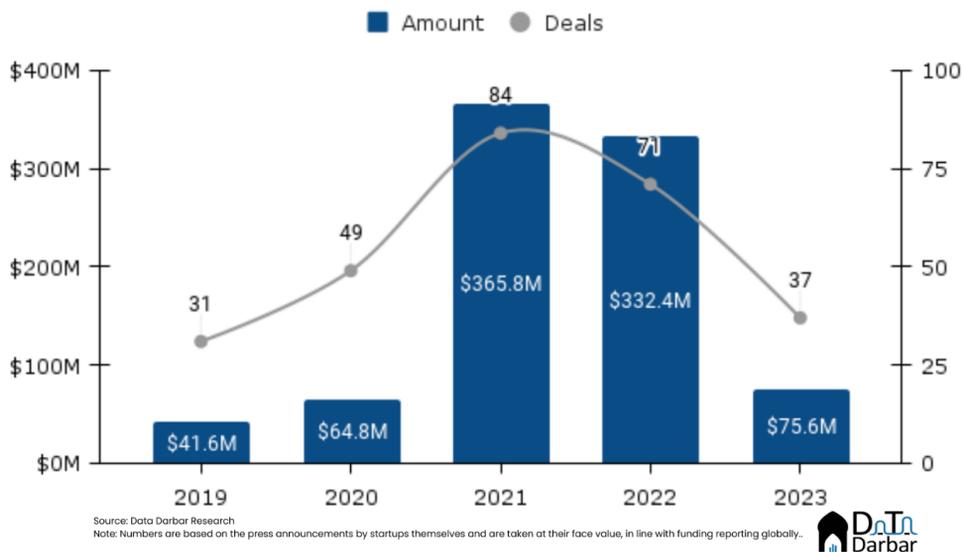
⁸ PBS Trade In Services -Summary, 2022

⁹ Amin, T. (2023) "Jul-Jan 2022-23: IT, ITeS Export Remittances up 2.4pc to \$1.523bn YoY," Business Recorder, 21 February.

¹⁰ <http://www.moit.gov.pk/SitelImage/Misc/files/Pakistan%27s%20IT%20Industry%20Report-Printer.pdf>

¹¹ <https://insights.datadarbar.io/pakistan-startup-funding-review-a-teaser/>

Pakistan Startup Funding Activity



- Lack of adequate infrastructure and connectivity:** Pakistan ranks low on various indicators of digital infrastructure and access, such as broadband penetration, internet speed, and affordability. According to the CISCO Global Digital Readiness Index (2019), Pakistan scores 0.33, which is the least in comparisons to regional countries like India, Iran, China, Sri Lanka and Bangladesh¹². The lack of reliable and affordable internet connectivity limits the opportunities for IT businesses and freelancers to access local and global markets. According to Gallup Pakistan Analysis on Ookla Speed Test Data¹³, Pakistan ranks 108/139 countries in terms of mobile internet speed and 159/176 countries in terms of fixed broadband internet speed.
- Shortage of skilled human resources:** According to the Gallup Pakistan's report Digital Pakistan: A Business and Trade Assessment, 23 percent of the surveyed firms reported inadequate quality of graduates as a challenge for industry growth. While graduates from top universities, such as Lahore University of Management Sciences (LUMS), National University of Sciences and Technology (NUST), which are about 1,000 each year, are categorized as 100 percent employable by the industry, the story is different for the lower-ranked institutes. High value-added product development firms find only 10 percent of the graduates from lower-tier universities employable, while it is 50 percent for lower-end software services firms. Lack of contemporary programming skills and weak English language skills are identified as major drawbacks, stemming from lack of qualified teachers and modern curriculum at all levels of education faces a significant gap between the demand and supply of skilled IT professionals¹⁴. As for general population, according to Gallup Pakistan, lack of knowledge on how to use the computer (53%) is identified as the major factor for not using a computer while lack of affordability is cited by 15%¹⁵, this will eventually result in shortage of skilled resources in the long run.
- Weak regulatory environment and policy support:** Pakistan lacks a conducive regulatory environment and policy support for the IT sector. There are multiple issues related to taxation, intellectual property rights, data protection, cybersecurity, e-commerce, and digital payments that need to be resolved to create a level playing field for IT businesses and freelancers. There is also a need for better coordination and collaboration among various stakeholders, such as government agencies,

¹² https://www.cisco.com/c/dam/en_us/about/csr/reports/global-digital-readiness-index.pdf

¹³ <https://gallup.com.pk/post/30921>

¹⁴ <https://gallup.com.pk/wp/wp-content/uploads/2020/08/Digital-Pakistan-Economic-Policy-for-Export-Competitiveness-A-Business-and-Trade-Assessment.pdf>

¹⁵ <https://gallup.com.pk/post/30725>

industry associations, academia, civil society, and international partners. The most critical component in this category is Foreign Exchange regulations that are burdensome and complicated. The regulations are primarily tailored to suit the requirements of the tangible realm, as opposed to the novel commercial frameworks that have emerged as a result of technological advancements. Several instances were cited during the survey conducted by Gallup Pakistan¹⁶, namely:

- The business objective is to streamline and expedite global transactions. However, the current absence of payment facilitators such as PayPal in Pakistan necessitates alternative solutions.
- The processing time for international payments is currently 6-7 days, and the process is often complicated by extensive paperwork requirements.
- Additionally, banks are legally prohibited from holding more than 35 percent of their reserves in foreign currency.

5. **Low awareness and adoption of digital technologies:** Pakistan has a low level of awareness and adoption of digital technologies among its citizens and businesses. According to Pakistan Social and Living Standards Measurement Survey & Gallup Pakistan¹⁷:

- Lack of knowledge on how to use the computer (53%) is identified as the major factor for not using a computer while lack of affordability is cited by 15%.
- 55% Pakistanis claim that they do not have a personal mobile phone, while 3 in 10 (30%) Pakistanis own a mobile phone and 15% own a personal smart phone.
- 7% Pakistani households say they own a laptop. Significantly lower proportion of households from Balochistan (2%) report the same. Islamabad (27%) and urban KP (16%) boast highest ownership statistics.

Navigating Obstacles

To overcome these challenges and unleash the full potential of the IT sector, Pakistan needs to adopt a comprehensive and holistic approach that can address both the supply-side and demand-side factors affecting the IT sector. Some of the possible measures that can be taken are:

1. **Investing in digital infrastructure and connectivity:** Pakistan needs to invest more in building and upgrading its digital infrastructure and connectivity across urban and rural areas. This includes expanding broadband coverage, increasing internet speed and quality, reducing internet tariffs, promoting public Wi-Fi hotspots, supporting community networks, and encouraging competition among service providers. This can be done by increasing public spending on infrastructure development, promoting public-private partnerships, encouraging competition among service providers, and leveraging new technologies such as solar power and 5G networks.
2. **Enhancing IT education and skills development:** Pakistan needs to enhance its IT education and skills development system to produce more qualified and competent IT professionals. This includes improving the curriculum and pedagogy of IT programs at universities and colleges, providing more scholarships and incentives for IT students, establishing more centres of excellence and incubators for IT startups, offering more online courses and certifications for IT freelancers. This can be done by improving the quality of education at all levels, especially in science, technology, engineering, and mathematics (STEM) subjects; expanding vocational training and skill development programs; providing incentives for retaining and attracting talent; and facilitating mobility and collaboration among IT professionals.
3. **Investing in policy environment:** The government should invest more in creating a conducive policy environment for the IT sector. This can be done by reducing taxes and tariffs on IT products and services; simplifying regulations and procedures; strengthening intellectual property rights protection;

¹⁶ <https://gallup.com.pk/wp/wp-content/uploads/2020/08/Digital-Pakistan-Economic-Policy-for-Export-Competitiveness-A-Business-and-Trade-Assessment.pdf>

¹⁷ <https://gallup.com.pk/post/30725>

increasing access to finance; establishing special economic zones; fostering linkages among academia, industry, and government; and enhancing regional and international cooperation.

In conclusion, in the world where Survival of the Fastest is the norm, the IT sector is the fastest way to recovery for any country facing the economic meltdown because of its incredibly short gestation period compared to any other sector. The IT sector can generate returns faster, grow bigger and survive longer than any other sector by leveraging its innovation, scalability and resilience. Therefore, investors, policymakers and entrepreneurs should focus on supporting and developing the IT sector as a key driver of economic recovery and growth.

Lahore on Rails

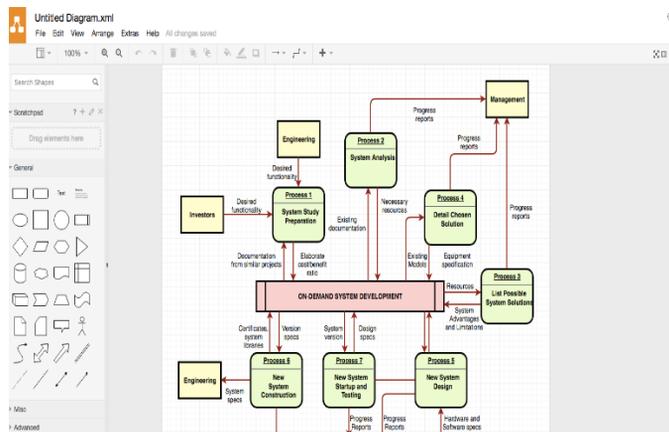
This segment 'Lahore on Rails' is basically inspired from 'Madrid on Rails' adapted from a famous open source web application framework, 'Ruby on Rails'; a project initiated by the City Council of Madrid to motivate SMEs to use open source technologies

“DRAW.IO” **Processes and Flow Charts Tool**

Need a visual representation of your processes? Draw.io is a free tool for creating and collaborating over flow chart maps. It supports BPMN, which is the globally recognized standard for business process notation.

What is Draw.io?

diagrams.net (previously draw.io) is a cross-platform graph drawing software developed in HTML5 and JavaScript. Its interface can be used to create diagrams such as flowcharts, wireframes, UML diagrams, organizational charts, and network diagrams. Diagrams.net is available free of charge as an online web app, and as an offline desktop application for Linux, macOS, and Windows. Its offline application is built using the Electron framework. The web app does not require online login or registration and can open from and save to the local hard drive. Supported storage and export formats to download include PNG, JPEG, SVG, and PDF.



Draw.io Features:

- Keep your diagram data secure
- Diagram wherever you want (Google Drive, Microsoft OneDrive, Dropbox, GitHub/GitLab, in your browser, or on your device)
- Collaborate in real time with shared cursors
- Easy to use diagram editor

<https://www.drawio.com>

Disclaimer

SME Observer is a publication of Policy and Planning Division of SMEDA. Various sources have been consulted for the publication. Facts & analysis presented here aim to facilitate entrepreneurs and policy makers in their decision making. The views expressed in the articles are of the authors and should not be attributed to SMEDA. The accuracy of statements, findings and analysis is responsibility of authors.

© All rights reserved. Reproduction is permitted with the consent of SMEDA.



For Feedback and Comments

Ali Ishtiaq

Small & Medium Enterprises Development Authority

4th Floor, Building No. 3, Aiwana e Iqbal Complex, Egerton Road, Lahore

Phone: 92 42 111 111 456 E-mail: ishtiaq@smeda.org.pk

