"EFFECT OF MACHINERY IMPORTS ON MANUFACTURING SECTOR OF PAKISTAN"

INFONALYSIS

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Research & Development Cell

Karachi Chamber of Commerce & Industry

The gateway to economic prosperity…

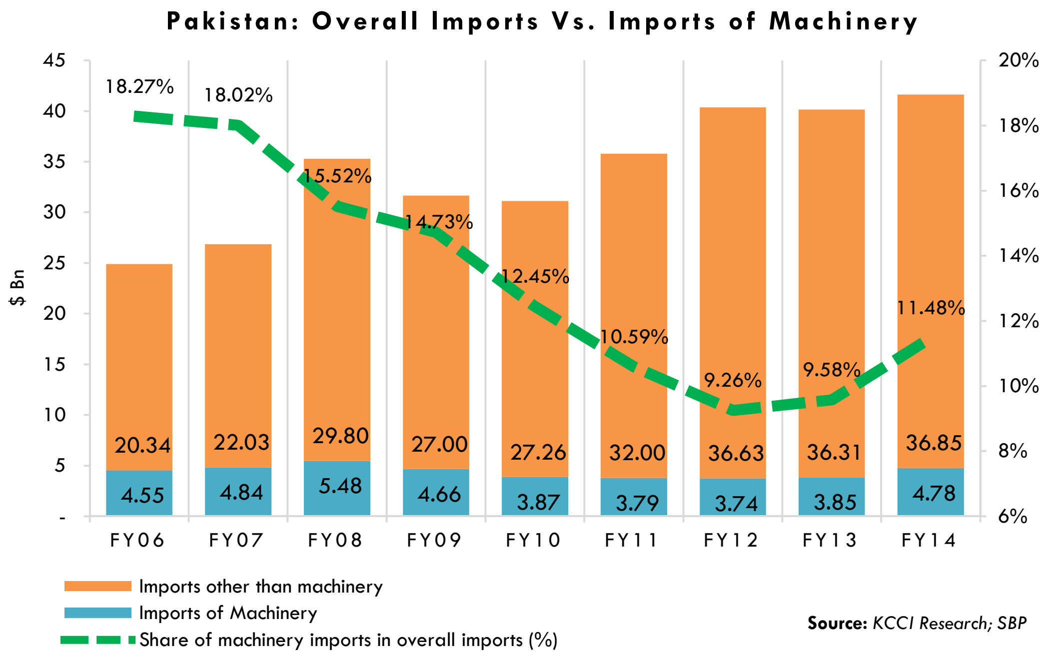
Significance of mechanization

For developing nations like Pakistan, industrialization plays a key role in economic progress.

Technology has changed everyday lifestyles and with cutting edge advancement, the world has increasingly become more proficient in its manufacturing skills. High efficiency has emerged from industrialization whereby industries have achieved capabilities of producing high precision products at large scale. For developing nations like Pakistan, industrialization plays a key role in economic progress. Industrial development raises national income, creates employment opportunities and improves the balance of payments position both by producing exportable goods and by substituting imports. It also supports and stimulates growth in other sectors of the economy like services and agriculture.

Trade trend and machinery share

Pakistan has remained a net importer for the last many years. Mineral fuels and oils constituted a major portion of imports (36.95%[1]) in FY14, followed by chemicals (12.65%) and machinery and electrical equipment (11.46%). It is worthwhile to note that where overall imports of Pakistan have increased from $ 24.89Bn to $



Source: *KCCI Research; SBP*

CAGR of overall imports was 6.6% while it remained only 0.62% for machinery. Share of machinery has dropped from 18.2% in FY06 to 11.46% of the total imports in FY14

41.63Bn from FY06 to FY14 imports of machinery have averaged just around $ 4.4Bn. The Compounded Annual Growth Rate (CAGR) of overall imports was 6.6% while it remained only 0.62% for machinery. Share of machinery has dropped from 18.2% in FY06 to 11.46% of the total imports in FY14, indicating that technological enhancement and industrialization may have been put at the back burner, which is one of the reason why Pakistan's economy has not been able to progress at a pace commensurate with its peers.

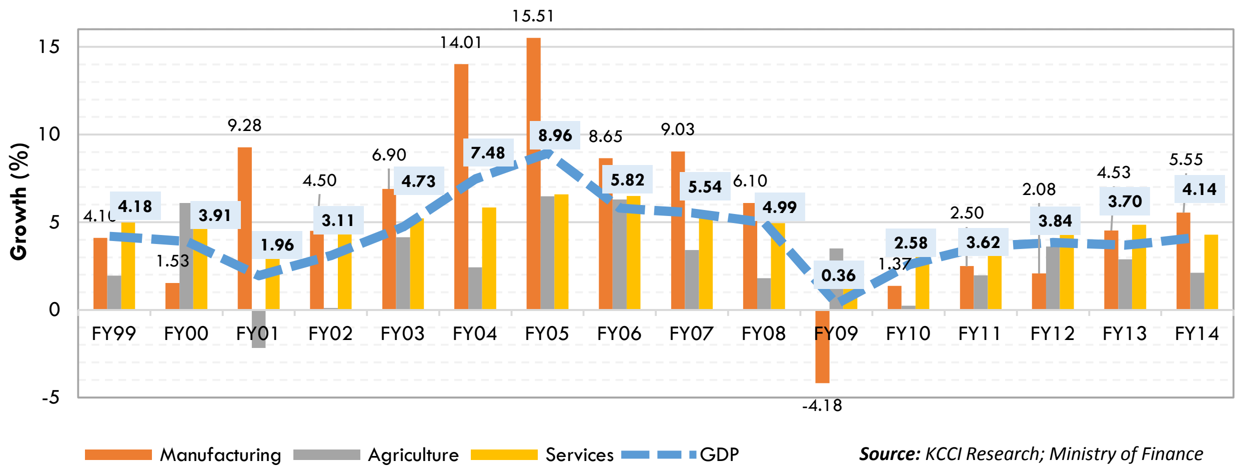
[1] *The percentages express the share of a particular head out of the total imports made by Pakistan in FY14*

GDP growth closely linked with manufacturing growth

The manufacturing sector has always remained the catalyst of boosting Pakistan's economy. Its growth bolsters high benefits on both domestic and external fronts.

The manufacturing sector has always been a catalyst for boosting Pakistan's economy. Its growth bolsters high benefits on both domestic and external fronts. According to our estimates, keeping all other factors constant, a roughly 2.37% increase in the manufacturing sector's growth would increase GDP growth of Pakistan by 1%[2]. It is also evident from the chart below that GDP has mostly grown synchronously with the growth in manufacturing sector. Specifically, GDP of Pakistan grew at a high rate of ~9% in FY05 mainly because of the contribution from manufacturing sector which grew by a record 15.5%. Moreover, the total investment

Role of Manufacturing sector in GDP growth of Pakistan



Source: *KCCI Research; Ministry of Finance*

in the same period was at 19.3% of the GDP[3], the highest ever in the history of Pakistan. There was influx of new communication mediums, better infrastructure was being built (especially in the industrial hub, Karachi) which made a lasting impression on prospective investors to establish their industries and prosper.

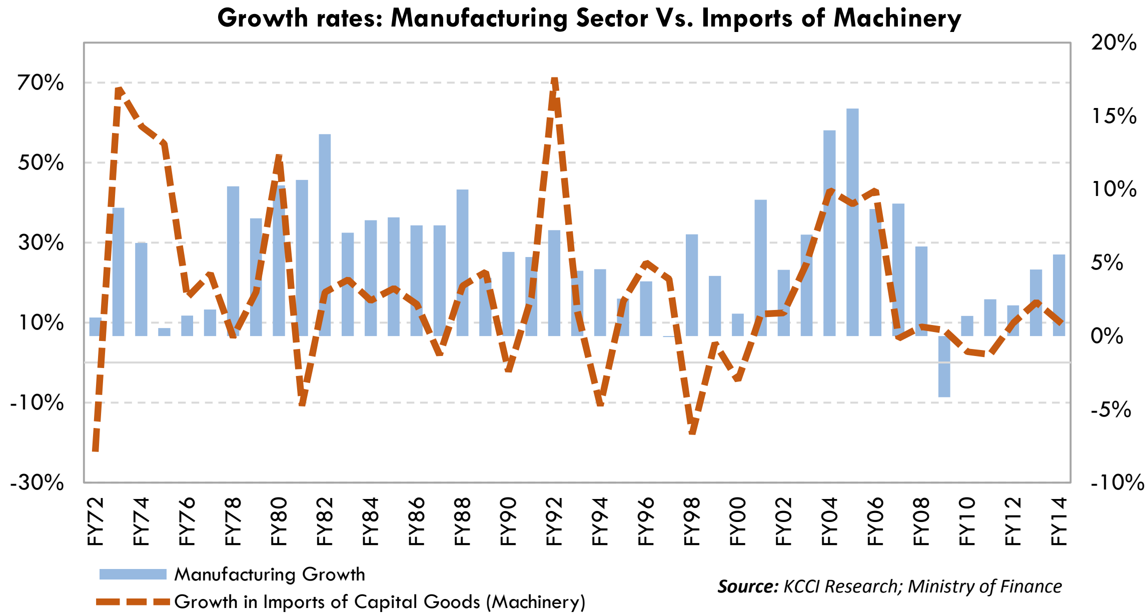
Positive relationship of manufacturing growth with machinery imports growth

The chart below shows that there is a positive albeit moderate long term relationship between growth in imports of capital goods (machinery) and manufacturing sector growth of Pakistan. Statistically, the correlation is found to be 26.5% between the two indicators. The apparent reason for the moderate correlation is that out of the total imports of machinery and electrical equipment (under HS code 84 and 85)[4], only a limited portion of machines could be categorized as value additive.

[2] *Time series regression model has been applied*

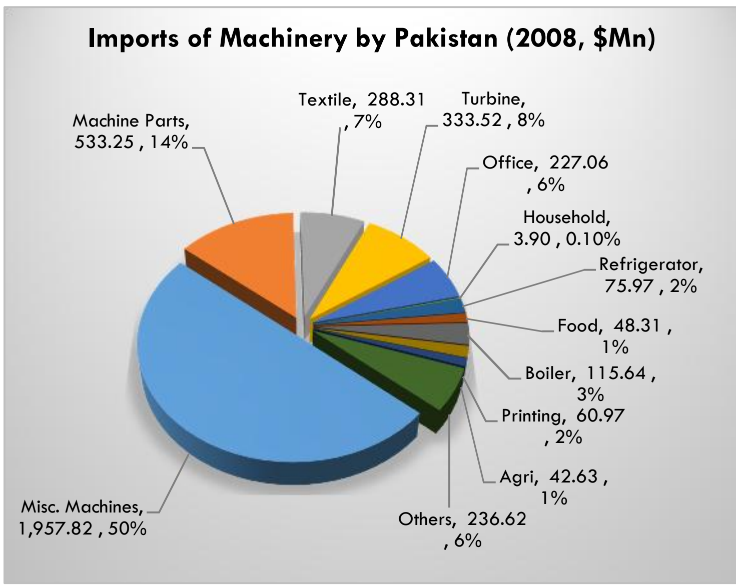
[3] *Source: Economic Survey 2013-14*

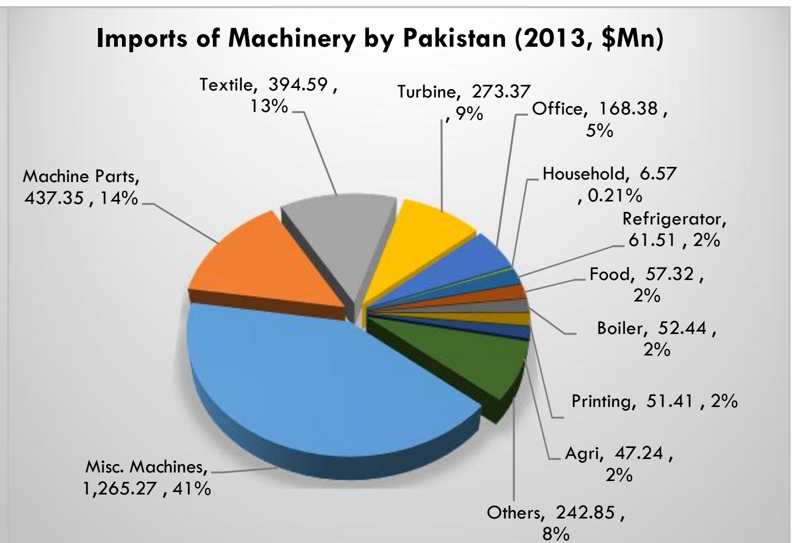
[4] *HS code 84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof*
HS code 85: Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles



***Source:** KCCI Research; Ministry of Finance*

A major portion in machinery imports is of miscellaneous machineries (50% in 2008 and 41% in 2013) which include air and vacuum pumps, dish washing and air-conditioning machines, amongst others. Thus, household electrical appliances and office equipment constitute a significant portion of total machinery imports, while imports for industrial machinery appears to be concentrated in a few sectors only.





***Source:** KCCI Research; Trade map*

China's emergence as the biggest source of machinery

A visible trend in machinery import is the shift of machinery sourcing locations. In recent years, the major share in the import mix of machinery and electronics of Pakistan has been enjoyed by China. It is interesting that China's share in the imports of machinery and electronics increased from 12.7% in 2003 to 19.6% in 2006, CAGR of 22.24% in machinery imports from China is indicative of the bounties Chinese industrial products have reaped in the Pakistani market.

while it up surged substantially to 45.17% in 2013 (See Appendix 1). The growth (CAGR) of 22.24% in machinery imports is indicative of the bounties Chinese industrial products have reaped in the Pakistani market. Pakistan's Free Trade Agreement (FTA) since 2006-07 has also played an instrumental role in increasing Chinese share in Pakistan's machinery market.

The other partners of Pakistan in the import mix include USA, Singapore, United Kingdom, Korea, Japan and Germany. During the period of 2006 to 2013, the imports of machinery by Pakistan from USA have remained stable as its share showed a nominal uplift from 8.7% to 10%. Similarly, the share of Japan and Thailand reflects a slight raise from 2.14% and 1.23% to 2.41% and 1.79% respectively. However, Singapore, UK and Germany's share declined from 7.05%, 6.76% and 6.76% to 6.17%, 4.58% and 2.83% respectively.

Although the major exporters of machinery to Pakistan are China, USA and Singapore, Pakistan should look to import value added machinery and technology from Thailand, Japan, Germany, UK and other markets as well which are known for their industrial machine manufacturing.

Indigenous machine manufacturing key to long term growth

Almost 100% self-sufficiency has been achieved in electric motor production, around 95% in electric pumps, nearly 70% in motorcycles and about 50% in trucks and buses.

Pakistan inherited a negligible engineering base comprising small workshops producing lathe machines, cane crushers, etc. at its inception. However, things improved gradually with the passage of time, when large units were established to support the engineering front, which include Karachi Shipyard and Engineering Works (KSEW) in 1957 and Pakistan Steel Mills (PSM) in 1973, amongst others. However, still the local engineering industry is only meeting around 30% to 45% of the demand within the country while the rest is being met through imports.

Despite the issues of energy crisis, raw material unavailability, lack of research and development, irrational and complex taxation system and inconsistent policies, the local engineering industry has been somewhat successful in achieving self-sufficiency, but the progress remains confined to a few categories. For instance, almost 100% self-sufficiency has been achieved in electric motor production, around 95% in electric pumps, nearly 70% in motorcycles and about 50% in trucks and buses.

It is worth mentioning that Toyota, Suzuki and Honda have achieved 45%, 65% and 5% deletion levels.

Market for imported machinery and equipment in Pakistan is directly proportional to the overall strength of the industry at local level. There is negligible local production of textile machinery which mainly comprises of spindles and ring cups for the spinning industry, power looms for the weaving industry, simple dyeing and finishing equipment, knitting and sewing machines and accessories such as rubber cots plastic bobbins and wire for carding machines. To compete with high tech competitors, Pakistani has to opt for highly expensive automated industrial operations and solutions.

On the part of automotive industry, the major players namely Toyota, Suzuki and Honda have invested in the technological uplift of their manufacturing plants. It is worth mentioning that Toyota, Suzuki and Honda have achieved 45%, 65% and 5%

Efforts should be made towards diversifying mechanization and achieve self-reliance in sectors like plastics, packaging, textiles, food, automotive, gems and jewelry and optical instruments amongst others.

deletion levels[5]. However, there is much more area to cover, as these firms still import a significant portion of high tech and complex parts from their principals as local part manufacturers have not been able to attain the required levels of precision as yet.

Therefore, efforts should be made towards diversifying mechanization and achieve self-reliance in sectors like plastics, packaging, textiles, food, automotive, gems and jewelry and optical instruments amongst others, so it could contribute in manufacturing of value-added products to bolster Pakistan's exports and GDP to new heights. Promoting indigenous manufacturing would also support lackluster exports of machinery and electrical equipment which was recorded at mere ~$ 290Mn in 2013.

Direction – the most decisive factor in deciding the future

We have briefly discussed the impact of imports of machinery over the economy and the potential which manufacturing sector possesses for turning the tables for Pakistan on both the domestic and external front. Pakistan has been blessed with vast resources for supporting its manufacturing sector so that it can compete with and outperform other nations of the world.

Growth in manufacturing requires modern machinery. Pakistan needs to build a solid industrial base by attaining technology transfers of high tech machinery, while simultaneously focusing on indigenous mechanization.

However, it is lamentable that the performance of the manufacturing sector has been less than satisfactory due to various factors, some of which have been discussed above. It is about time that long term realistic and workable policies be formulated to develop hi-tech industries to induce self-sufficiency.

The precise need of the day for Pakistan's manufacturing sector is setting the right direction. Direction in order to decide for the future as to where we wish to position the country by the end of this decade and years to come. Growth in manufacturing, especially with reference to key industries, requires modern machinery. Pakistan needs to build a solid industrial base by attaining technology transfers of high tech machinery, while simultaneously focusing on indigenous mechanization in order to reduce its reliance on imports in the long term.

At the same time, the mindset of entrepreneurs in the private sector needs to be changed. Currently there appears to be a lack of motivation on their part in using indigenous technologies while giving preference to expensive imported technologies. If Pakistan can develop high tech fighter aircraft and modern submarines, there is no way it cannot enter into sustained development of high quality durable industrial machinery. The role of the government is also important for promoting industrialization and self-sustenance in the form of provision of facilities, skill development and taxation related incentives, amongst others.

[5] *Processes and parts that are manufactured locally instead of being imported from other countries*

APPENDIX 1: SOURCE WISE IMPORTS OF MACHINERY AND ELECTRONICS BY PAKISTAN ($ Mn)

Exporters	2006	Share (%)	2013	Share (%)
China	1,260	19.60%	2,593	45.17%
United States of America	557	8.68%	577	10.06%
Singapore	453	7.05%	358	6.24%
United Kingdom	434	6.76%	354	6.17%
Republic of Korea	408	6.34%	263	4.58%
Japan	137	2.14%	174	3.03%
Germany	435	6.76%	163	2.83%
Europe Other. Nes	88	1.37%	138	2.41%
Sweden	585	9.11%	127	2.22%
United Arab Emirates	276	4.30%	110	1.92%
Thailand	79	1.23%	103	1.79%
Hong Kong, China	169	2.64%	91	1.59%
Austria	104	1.62%	77	1.34%
France	173	2.69%	61	1.06%
Turkey	89	1.39%	57	1.00%
Italy	40	0.62%	53	0.92%
Malaysia	100	1.56%	48	0.84%
Netherlands	16	0.25%	45	0.79%
Finland	392	6.11%	42	0.74%
Chinese Taipei	66	1.02%	31	0.55%
Spain	33	0.51%	27	0.48%
Canada	46	0.71%	24	0.42%
Egypt	37	0.58%	22	0.38%
Indonesia	29	0.45%	21	0.37%
Switzerland	41	0.64%	19	0.33%
Czech Republic	14	0.22%	16	0.28%
Iran	38	0.59%	14	0.24%
Mexico	9	0.15%	12	0.22%
Denmark	13	0.20%	11	0.18%
India	23	0.36%	10	0.18%
Belgium	33	0.52%	10	0.18%
Poland	6	0.10%	9	0.16%
Philippines	18	0.28%	9	0.15%
Lebanon	18	0.27%	8	0.14%
Oman	13	0.21%	7	0.12%
Viet Nam	4	0.06%	6	0.11%
Australia	10	0.16%	6	0.10%
Hungary	56	0.87%	4	0.07%
Saudi Arabia	5	0.08%	3	0.06%
Swaziland	22	0.34%	3	0.06%
Lithuania	3	0.04%	3	0.05%
Brazil	11	0.18%	3	0.05%
Democratic Republic of Korea	7	0.10%	3	0.05%
Others	74	1.14%	18	0.32%

Source: *KCCI Research; Trade map*

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